

The Mining Journal

RAILWAY AND COMMERCIAL GAZETTE

25
GREAT GEORGE ST.
S.W.

FORMING A COMPLETE RECORD OF THE PROCEEDINGS OF ALL PUBLIC COMPANIES.

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WITH SUPPLEMENT. { PRICE SIXPENCE.
PER ANNUM, BY POST, 21 4d.

MR. JAMES H. CROFTS, STOCK AND SHARE BROKER,
No. 1, FINCH LANE, CORNHILL, LONDON, E.C.
Established 1842.

BUSINESS transacted in all descriptions of MINING Stocks and Shares (British and Foreign), Consols, Banks, Bonds (Foreign and Colonial), Railways, Miscellaneous Insurance, Assurance, Telegraph, Shipping, Canal, Gas, Water, and Dock Shares.

BUSINESS negotiated in Stocks and Shares not having a general market value.

BUSINESS in all COLLIERY and IRON SHARES, and in the principal WAGON and MANUFACTURING COMPANIES of the NORTH of ENGLAND and SCOTLAND.

Mr. J. H. CROFTS, having now established CORRESPONDING AGENCIES in all the CHIEF TOWNS of the United Kingdom, is prepared to deal in the various LOCAL STOCKS and SHARES at close market prices.

COTTON SPINNING SHARES Bought and Sold, including those of Oldham, Bury, Heywood, Darwen, Accrington, and neighbouring districts. This description of security can be purchased to pay the investor very fair interest upon outlay.

Accounts opened for the Fortnightly Settlement.

Monthly and Daily Price Lists issued.

Bankers: City Bank, London; South Cornwall Bank, St. Austell.

SPECIAL DEALINGS in the following, or part:—30 Ashtonet; 10 Bilson, 10% (ex-div.); 20 Bampfylde, 35s.; 50 Chapel House; 15 Cardiff and Swansea, 25 10s.; 15 East Caradon, 17s. 6d.; 10 Great Laxey, £14 10s.; 50 Fronch, 1s. 3d.; 50 Gold; 60 Gold Run, 17s. 6d.; 20 Javali; 25 Ladywell, 25s.; 30 Last Chance, 25s. 9d.; 40 Lawe's Chemical, 26 10s.; 15 Marke Valley, £1 13s. 9d.; 50 Malabar; 100 North Prince Patrick, 10s.; 25 New Rosewarne, 10s.; 100 Prince of Wales, 6s.; 20 Pennerley, £1 12s. 6d.; 80 Parys Mountain, 13s.; 50 Positive Assurance, 13s.; 50 Penstruth, 9s. 6d.; 25 Plymlimmon, 8s. 6d.; 25 Rockwool, 5s.; 50 Roman Gravels, £1 17s. 6d.; 10 Richmond; 50 St. Patrick; 50 Thorp's Gawber, 210 10s.; 15 Van Cossols, 22 3s. 9d.

* * Shares sold for forward delivery (one or two months) on deposit of 20 per cent.

Business on hand in all the leading TIN, COPPER, and LEAD Shares.

PATELEY BRIDGE LEAD AND SMELTING.—Special Business in these shares. The mines are situated in the celebrated Grassington district.

JAMES H. CROFTS, 1, FINCH LANE, LONDON.

MRS. W. H. BUMPUS, STOCK AND SHARE BROKER,
44, THREADNEEDLE STREET, LONDON, E.C.,
Transacts business in MINING and COLLIERY Shares of every description. English and Foreign Stocks, Colonial Government Bonds, Railways, Banks, and Miscellaneous Shares, and all Securities dealt in on the London Stock Exchange, for INVESTMENT or SPECULATION.

Purchases and Sales negotiated in Unmarketable Stocks and Shares.

Speculative Accounts opened for the Fortnightly Settlement.

References given and required when necessary.

A Stock and Share List forwarded to bona fide Investors free on application.

Bankers: The National Provincial Bank of England, E.C.

W. H. B. HAS SPECIAL BUSINESS in the undermentioned:—
25 Ashtonet, 27s. 9d. 50 East Van, 32s. 6d. 100 Rookhope, 5s.
40 Almada, 15s. 6d. 25 East Caradon, 23s. 30 Richmond, 12s. 9d.
10 Blue Tent, 40s. 30 Frontino, 15s. 6d. 50 Sweetland, 23s.
50 Bog, 9s. 6d. 50 Flagstaff, £1 11s. 3d. 30 Sierra Buttes.
50 Birdcote, 35s. 6d. 100 Gold, 46d. 100 South Aurora.
150 Barnsbyde, 25s. 6d. 15 Hornsby, 46d. 30 Tyliwyd, 16s. 3d.
25 Colmore, 23s. 10 Javali, 11s. 15 Tankerville, £1 11s. 3d.
10 Cross Sulphur, 50 Linaries. 100 Teconia, 14s. 3d.
25 Cardiff and Swansea, 25 Llanrwst, 30s. 6d. 100 Unit, Mexican, 22 10s.
10 Chapel House, 25 Llanrwst. 6 Van, 22 10s.
150 Cape Copper, £34 1/2%. 25 Marke Valley, 34s. 6d. 30 Van Cossols, £2 1/2%.
100 Cathedral, 25s. 3d. 50 Malpico, 13s. 3d. 10 West Chiverton.
150 Chontales, 12s. 3d. 20 New Quebrada, £4 1/2%.
20 Devon Con., £2 19s. 35 Pennerley, 34s. 25 W. Kitty (St. Agnes).
3 Dolcoath, 15 Pateley Bridge. 50 W. Tankerville, 17s.
120 Don Pedro, 13s. 70 Penstruth, 9s. 6d. 30 Wh. Grenville.
25 Eberhardt, £8 11s. 6d. 100 Plymlimmon, 7s. 3d. 100 Wh. Russell (off. wtd.).
50 Emma, 37s. 9d. 10 Port Phillip, 14s. 28 W. Godolphin.
5 East Lovell, £8. 30 Parys Mount, 12s. 6d. 100 Yorke Peninsula.
20 Roman Gra., £12 5s.

MRS. E. J. BARTLETT, STOCK AND SHARE DEALER,
No. 30, GREAT ST. HELEN'S, LONDON, E.C. (Established 10 years),
has SPECIAL BUSINESS in South Condurrow, Prince Patrick, Wheal Kitty, Penhalls, and Chapel House Shares at close prices.

FERDINAND R. KIRK, STOCKBROKER,
5, BIRCHIN LANE, E.C.
Consols, Foreign Bonds, Railways, and every security quoted on 'Change bought and sold.

Bankers: London and Westminster, and City Bank.

Clients giving the usual "cover" can open accounts for the fortnightly settlement. Coupons collected and drafts cashed free of charge. References given when necessary in most of the leading towns of the United Kingdom. Commission on Railways 2 per cent., and 2s. 6d. on Foreign Bonds.

SPECIAL BUSINESS in Gladstone Quarry, Altamai Colliery, Eberhardt, Cape Copper, Cardiff, Chapel House, Pateley Bridge Lead. Particulars may be had of this rising company.

JOHN RISLEY (SWORN), STOCK AND SHARE BROKER,
77, CORNHILL, LONDON.

Turkish S. Per Cent. of 1854, 1855, 1862, 1865, 1871, and 1873 specially recommended; also Wheal Grouville, Treleigh Wood, Parys Mountain, Wheal Peevor, and Crebor shares.

Business transacted at the following rates of commission:—Foreign Stocks, 1/4 per cent.; and Mining Shares of £4 each and upwards, 1/4 per cent.; under £4, 1s. per share.

G. E. SIMPSON, STOCK AND SHARE DEALER,
6, GREAT WINCHESTER STREET BUILDINGS, LONDON, E.C., will sell the FOLLOWING SHARES, free of commission:—
50 Almada, 16s. 70 Javali, 8s. 9d. 15 Roman Grav., £11 18s 9d.
70 Bog, 9s. 6d. 50 Ladywell, 43 1/2%. 40 Sweetland Ok., £21 7s 6d.
50 Birdcote, £1 15s. 30 Monydd Gorddu, £20 1/2%. 50 St. Patrick, £1 2s. 6d.
100 Chontales, 11s. 6d. 50 Marke Valley, £1 16s. 20 Tankerville, £11 1/2%.
50 Devon Con., £2 17s 9d. 40 Pennerley, £1 12s. 6d. 10 Van £24 1/2%.
40 Eberhardt, £8 11s. 3d. 25 Pateley Bridge, £25 1/2%. 50 Van Cossols, £2 1s. 6d.
120 Hingston, 26s. 30 Richmond, £12 13s 9d. 15 W. Chiverton, £16.

JOHN MOSS AND CO., STOCK AND SHARE DEALERS,
234 AND 235, GRESHAM HOUSE, OLD BROAD STREET, E.C.,
Transact Business in all descriptions of British and Foreign Stocks and Mining Shares, either for cash or on the account. Speculative accounts for the fortnightly settlement opened on special and advantageous terms.

J. M. and Co. advise respecting the Sale and Purchase of all classes of Security, and investors should communicate with them before buying.

J. M. and Co. have great pleasure in pointing their clients to the steady and continuous improvement made in the North Prince Patrick Mine, which is evident from the reports published weekly in the columns of this Journal. From this point the shares may be expected to have as great a rise as the South Prince Patrick. J. M. and Co. are always able to deal in these shares.

Bankers: The London and County Bank, Lombard-street.

MESSRS. HARLAND AND CO., STOCK AND SHARE DEALERS, 235 and 236, GRESHAM HOUSE, LONDON, E.C.
Bankers: London and County Bank.

Messrs. H. and Co. wish to direct attention to the DIVIDENDS declared by CHAPEL HOUSE and ALLTAMI COLLIERIES, and will be happy to supply shares in these companies at market rates.

SPECIAL BUSINESSES in Patent Ligno Mineral Paving Company.

MRS. GEORGE BUDGE, STOCK AND SHARE DEALER,
No. 4, ROYAL EXCHANGE BUILDINGS, LONDON, E.C. (Established 26 years) has SPECIAL BUSINESS in—50 Monydd Gorddu; 60 North Prince Patrick; 120 West Mostyn, 23 1/2%; 40 Pateley Bridge; 100 Javali, 8s. 6d.; 150 Exchequer; 150 West Whisper; 75 Old Tincroft; 70 I. X. L.; 80 Independence; 20 Western District; 150 Gold; 5s.; 25s. 9d.; 26 Langdale Chemical, 25 3s. 9d.; 100 Positive Assurance, 12s. 6d. 50 Gold Run, 17s. 3d.

SAME at lowest price.

INVESTMENTS IN STOCKS AND SHARES.—
BRITISH and FOREIGN STOCKS and SHARES BOUGHT and SOLD.

List of Prices and other information sent on application.

Bankers: The Alliance Bank (Limited), London.

MRS. WATSON, 79, OLD BROAD STREET, LONDON, E.C.

(Close to Stock Exchange.)

FINANCIAL OPERATIONS NEGOTIATED.

MRS. ALFRED E. COOKE, STOCK AND SHARE DEALER,
76, OLD BROAD STREET, LONDON.

(Established 1853.)

Mr. COOKE can Sell the following Shares, and guarantee delivery, free of commission:—

20 Chontales, 13s. 6d. 20 Glastade, 20s. 15 Plymlimmon, 8s.
40 Cathedral, 27s. 20 Javali, 10s. 20 Saint Patrik, 22s. 6d.
15 Cedar Creek, 20s. 15 Monydd Gorddu, £26 1/2%. 20 Thorps Gawber.
20 Chapel House. 25 Old Treburgett, 4s. 6d. 20 Wheal Crebaw.
15 Fir Tree House Col., £5 25 Pateley Bridge. 20 West Chiverton.

Shares having no quotations affixed may be had at lowest market prices.

Business transacted in nearly all Coal, Iron, Manufacturing, and Miscellaneous Shares.

Reports and full information forwarded on any mining property.

On payment of 20 per cent. deposit shares may be had for end of August account.

MRS. T. E. W. THOMAS, SWORN SHARE BROKER,
3, GREAT WINCHESTER STREET BUILDINGS, E.C.

(Established 1857.)

The following are the latest prices at which business could be done. Where the difference between the buying and selling price is wide transactions may be effected at an intermediate price:—

Buyers. Sellers. Buyers. Sellers.
Birdseye Creek, £1 1/2%. £1 1/2%. Penstruthal, £1 1/2%. £1 1/2%.
8s. 9s. 8s. 9s. Penstruthal, 9s. 9s.
Carn Brea, 32 1/2%. 32 1/2%. Plymlimmon, 6s. 6s.
30 1/2%. 30 1/2%. Plymlimmon, 6s. 6s.
Chontales, 11s. 13s. Port Phillip, 13s. 9d. 13s. 9d.
2 1/2%. 2 1/2%. Port Phillip, 13s. 9d. 13s. 9d.
Devon Great Consols, 2 1/2%. 2 1/2%. Prince of Wales, 2s. 4s.
30 1/2%. 30 1/2%. Prince of Wales, 2s. 4s.
Dolcoath, 37. 39. Richmod, 12 1/2%. 12 1/2%.
12s. 14s. Richmod, 12 1/2%. 12 1/2%.
Don Pedro, 12s. 14s. Roman Gravels, 11 1/2%. 12 1/2%.
Eberhardt, 8 1/2%. 8 1/2%. St. Patrick, 1. 1. 1.
East Caradon, 11 1/2%. 12 1/2%. South Carn Brea, 1 1/2%. 1 1/2%.
East Pool, 11 1/2%. 12 1/2%. South Condurrow, 6s. 6d. 4 1/2%. 4 1/2%.
Flagstaff, 15. 15. Sweetland Creek, 17s. 6d. 3 1/2%. 3 1/2%.
Gold, 10s. 12s. Tankerville, 11 1/2%. 11 1/2%.
Hington Down, 1 1/2%. 5s. Tincroft, 24. 25.
Javali, 8s. 9s. Van Consols, 1 1/2%. 2 1/2%.
Ladywell, 3 1/2%. 3 1/2%. Van Consols, 1 1/2%. 2 1/2%.
Marke Valley, 1 1/2%. 2 1/2%. West Chiverton, 15. 16.
New Quebrada, 3 1/2%. 4 1/2%. Wheal Crebaw, 1 1/2%. 2 1/2%.
New Rosario, 7s. 8s. Wheal Jane, 2 1/2%. 3.
Parys Mountain, 12s. 14s. Wh. Kitty (St. Agnes), 2 1/2%. 2 1/2%.

MRS. WILLIAM WARD
(LATE WARD AND LITTLEWOOD),
CROSBY HOUSE,
95, BISHOPSGATE STREET WITHIN, E.C.,
STOCK AND SHARE BROKER.

MESSRS. PYNE AND ASHMEAD,
CITY MINING AGENTS,
LONDON MANAGEMENT OF COMPANIES UNDERTAKEN.
ACCOUNTS AUDITED, LIQUIDATIONS CONDUCTED.
6, BISHOPSGATE STREET WITHOUT, LONDON, E.C.

MRS. MARLBOROUGH, STOCK AND SHARE DEALER,
29, BISHOPSGATE STREET, LONDON, E.C. (Established 19 Years),
can sell the following SHARES, at prices annexed:—

10 Altarni Colliery. 25 Gunnislake (Clif.), 32s 6d. 80 Plymlimmon, 7s. 9d.
40 Ashtonet, 25s. 60 Glastade, 20s. 60 Penstruthal, 9s.
25 Bedford Unit, 16s. 3d. 150 Gold, 3s. 9d. 15 Pateley Bridge, £2 16s 4
20 Birdseye, £1 17s. 30 Javali, 9s. 100 Rookhope, 3s.
40 Bog, 8s. 9d. 25 Ladywell, £2 6s. 3d. 20 Russian Cop., £2 16s 3
50 Cathedral, 26s. 3d. 25 Marke Valley, 35s. 30 St. Patrick, 22s. 6d.
20 Chapel House, £2 16s 3 40 Monydd Gorddu, £26 1/2%. 20 Unit, Mexican, £2 2/2%.
40 Don Pedro, 13s. 6d. 20 New Quebrada, 44 1/3. 30 W. Tankerville, 10s.
10 Devon Con., £2 18s 9d. 60 Parys Mount, 12s. 6d. 50 West Maria, 6s. 6d.
10 Eberhardt, £8 11s. 3d. 60 Port Phillip, 12s. 6d. 100 West Milw., 7s.
30 Emma, £1 18s. 3d. 20 Pennerley, £1 1/2%. 10 W. Egash Lie, 12s. 6d.
35 Flagstaff, 30s. 10 Porthid Waterwks. 50 No. Fr. Patrick, 13s 3d
40 Frontino, 16s. 50 Porthid Waterwks. (Limited).

100 Altarni Colliery. 25 Gunnislake (Clif.), 32s 6d. 80 Plymlimmon, 7s. 9d.
40 Ashtonet, 25s. 60 Glastade, 20s. 60 Penstruthal, 9s.
25 Bedford Unit, 16s. 3d. 150 Gold, 3s. 9d. 15 Pateley Bridge, £2 16s 4
20 Birdseye, £1 17s. 30 Javali, 9s. 100 Rookhope, 3s.
40 Bog, 8s. 9d. 25 Ladywell, £2 6s. 3d. 20 Russian Cop., £2 16s 3
50 Cathedral, 26s. 3d. 25 Marke Valley, 35s. 30 St. Patrick, 22s. 6d.
20 Chapel House, £2 16s 3 40 Monydd Gorddu, £26 1/2%. 20 Unit, Mexican, £2 2/2%.
40 Don Pedro, 13s. 6d. 20 New Quebrada, 44 1/3. 30 W. Tankerville, 10s.
10 Devon Con., £2 18s 9d

THE NASCENT COPPER PROCESS.

This method of TREATING POOR COPPER and SILVER ORES is now in SUCCESSFUL OPERATION.

Licenses to use the Process may be arranged for by application to—

DR. STEPHEN H. EMMENS, 8, UNION COURT, OLD BROAD STREET, LONDON, E.C.

SOVEREIGN LIFE OFFICE,

48, ST. JAMES'S STREET, S.W. CITY BRANCH, 122, CANNON STREET, LONDON.

DR. ASHBURNER.
COL. J. P. BATHURST.

DIRECTORS.—SIR J. R. CARMICHAEL, BART.
JOHN GARDINER, Esq.
CHAS. W. REYNOLDS, Esq.

SIR J. E. EARDLEY WILMOT,
BART., M.P.
H. D. DAVENPORT, Secretary.

The Report for 1874, copies of which with the statements of account can be obtained on application, shows that a sum equal to 40 per cent. of the premium income was added to the funds, while the general income was increased.

The directors continue to make advances to assurers in the office on liberal terms.

SOUTH STAFFORDSHIRE AND EAST WORCESTERSHIRE INSTITUTE OF MINING ENGINEERS.

The annual excursion of this now prosperous Institute was made to North Staffordshire on Monday and Tuesday, and never before has the "out" been more enjoyable, or successful, or the greeting more cordial. The members assembled at Stoke early on Monday morning to the number of nearly 100, the majority coming in special saloon carriages from Dudley and Wolverhampton under the conductorship of Mr. Alexander Smith, C.E., the secretary, and accompanied by the president, Mr. John Hughes. Arrived at Stoke, the party were met by Mr. C. J. Homer, managing director of the Chatterley Company, and President of the North Stafford Institute of Mining Engineers, who had taken great interest in the arrangements for this visit. Conveyances were in attendance and a move was at once made to the Earl of Granville's Slipper Lane Colliery. The fine plant was here inspected, and consists of a pair of 30-in. engines, with a 18-ft. winding drum, with pit, headgear, &c., in proportion. The Penny Ironstone is here being worked, and also a fine furnace coal. The water is raised by a good old-fashioned pumping-engine, called the Wellington, which was started as early as the year in which the battle of Waterloo was fought. The party next visited the famous Hanley deep pit, which is 500 yards deep in the first shaft, and about 100 yards out in the working; another plant is erected, and is winding coal from another seam 170 yards lower down. As this is considered a great novelty most of the visitors descended the shaft. The next part of the programme was to inspect the Stafford Coal and Iron Company's Great Wenton sinkings, in which the Duke of Sutherland is largely concerned, and was to have met the party, but was unfortunately prevented by important business which detained him in London. In the absence of the Duke, Mr. Pender, M.P., one of the partners, received the party, and in company with Mr. Homer, who is also a director and manager there, conducted them over the works. This is the extreme western colliery in the district, and the Bassey Mine Ironstone was sought for under the Permanis, and found in the Trial shaft at the depth of 226 yards; the stone was 5 ft. 6 in. thick, with a 2 ft. 6 in. coal. Other large shafts, one 13 ft. and two 16 ft. diameter, have been sunk the whole depth in about 12 months, and, remarkable to say, the day or so before this visit in the two larger shafts the Bassey Mine was again struck, and found to be of the extraordinary thickness of 7 ft. of excellent ironstone and 2 ft. 6 in. of coal. This is unprecedented, the thickness being almost double the average run of the same measures in other portions of the district. The stone obtained is of very fine quality, and yields when calcined a percentage of 65 to 70 per cent. of metallic iron. It is impossible to estimate the great importance of this discovery not only to North Staffordshire, but to the kingdom generally, as these valuable deposits have here been proved to exist under the Permanis, beyond the formerly prescribed limits of the coal field, and the extent of area which they may underlie must be extensive, and cannot yet be limited. Mr. Homer is credited with the pluck and enterprise which has led to these important results. At these pits the sinking of the two largest shafts has been carried out by means of a pair of 22-in. cylinder horizontal engines and a pair of 18-in. The permanent plant will consist of a pair of 36-in. vertical engines, with conical drums and steel boilers to each shaft. The chimney stack will be 10 ft. in the clear, and the steam generated by means of gas, supplied either by regenerators erected on purpose from the blast-furnaces, six or more of which are to be built near the colliery. The plant when completed will be one of the finest in the kingdom, and capable of turning out 10,000 tons of mineral per day.

The Duke of Sutherland's Lightwood Colliery was next visited, and the Roby self-contained winding-engines seen working. Great interest was taken in an examination of the peculiar rocks that here overlie the coal measures. After lunch at the Stoke Hotel the show-rooms and manufactorys of Messrs. Mintons were next inspected, and the process of manufacturing the finest specimens of china were exhibited and explained from the preparation of the clay through all the different stages to the completion of the various articles. From these works the party were conveyed to the Duke of Sutherland's beautiful gardens at Trentham, and were delighted with the magnificent prospect in front of the hall. The hot houses, greenhouses, and conservatories were all visited. It may be interesting to state here that Trentham was originally a priory, and a monastery is said to have been founded there in 675. At the dissolution of the monasteries, in 1531, the Priory of Trentham became the property of Charles Brandon, Duke of Suffolk, and afterwards came into the possession of the Leveson's, an old Staffordshire family. Sir Richard Leveson, in 1633, built the old Trentham Hall. He died without issue, and the Trentham estates went to his sister, wife of Sir Thomas Gower. A member of this family was created a baron, and then Marquis of Stafford. The second Marquis married the Countess of Sutherland. The present is the third Duke, and his grace was born in 1828. His full name and title are George Granville William Sutherland Leveson Gower, third Duke of Sutherland, Marquis of Stafford, Earl Gower, Viscount Truntham, Baron Gower of Sittenham, in the peerage of the United Kingdom, Earl of Sutherland and Lord Strathnaver, Scotland, K.G., and a Baronet, and Lord-Lieutenant of Cromartie and Sutherland. His grace may be also styled the scientific nobleman, for no member of the aristocracy has taken more interest in engineering matters or done more to advance science generally. The second Duke altered and enlarged the present hall, commencing about 1834. The cost was 150,000/. After the visit to the gardens a banquet was given at the Trentham Hotel by the directors of the Stafford Coal and Iron Company, presided over by Mr. John Tenter, M.P., supported by Mr. Homer, Mr. Hughes, Mr. Blakemore, and others. Mr. Hopkinson, chairman of the Chatterley Company, filled the vice-chair. The speakers referred to the important discovery of ironstone at the great Fenton sinkings, and stated that with the rich coal at South Staffordshire the reputation of the county as an iron-producing district would long be kept up. About 11 o'clock the company rose and drove back to the hotel at Stoke, thus finishing one of the most enjoyable days yet spent.

On Tuesday, the second day, the works of the Chatterley Iron Company were first visited, under the guidance of Mr. C. J. Homer, the managing director. This company has a good blast-furnace plant; the blowing-engine was made by Messrs. Adamson and Co., of Manchester, and has a blowing cylinder 100-in. diameter. Near the furnaces is a large colliery, and the principal engines have 36-in. cylinders. The pit-head frame is of wrought iron, and is perhaps the finest structure for this purpose in the kingdom. Several of the company descended the pits and went into the workings of the Black Band ironstone, which produces the excellent furnace and puddling iron. The water at these pits is raised by means of steel chests placed under the cages. The visitors were also shown the oil retorts which are used for extracting oil from a shale overlying the Red Mine ironstone, they followed the process to the large oilworks also belonging to this company, where the crude oil is converted into colliery oil and grease, paraffin oil, wax, &c. Messrs. Bray and Thompson's works were also inspected, where the finest quality of alum is made from the alum shale which underlies the ironstone. Messrs. Robert Heath and Sons' Ravensdale Ironworks were then visited, and the party had the pleasure of seeing 10 ft. of the Danks revolving puddling machines at work, and saw a ball manipulated in the squeezers under the hammer and in the rolls. This is the finest on the system in this country, and Mr. Heath, M.P., deserves great credit for his enterprise in so largely adopting and testing this new mode of puddling. The visitors then adjourned to Chatterley Hall for lunch, which was kindly provided by the Chatterley Company. After lunch the party took special train (provided by the North Staffordshire Railway Company) to the Chatterley Company's Whitfield Colliery. There a splendid joke was perpetrated by Mr. Homer. It had been arranged that one of King's patent links or detaching hooks for preventing overwinding should be thoroughly tested before the visitors, and they were all collected round the head-gear to which the apparatus was connected. The signal was given for the man to start the engines and overwind a large sinker's bowk, and great surprise and breathless excitement was created when the bowk came up into sight at full speed, loaded as the company all thought with sinkers, and it was not till the link had admirably acted and left the bowk swinging in mid-air that it was discovered the supposed men were all dummies very well got up. Then there was a roar of laughter, followed by loud cheers. It is only due to say that the link was several times tested with perfect success. The surface plant and underground workings were inspected and much admired. A move was made from here to the Hanleyana Bucknall pits, a very well arranged plant. The Mossfield and Abberley Collieries were also visited, and the party viewed with pleasure the three splendid wrought-iron head-frames that are placed together at one plant. This finished the long and excellent programme, and the visitors returned to the Stoke Hotel, where the members of the South Staffordshire Institute gave a dinner to Mr. Homer, and thanked him in the heartiest manner possible for his overwhelming kindness in contributing in every conceivable way to the enjoyment and instruction of the party. The special train for home left Stoke at 8:45, the visitors giving three ringing cheers for Mr. Homer.

The proceedings in connection with the visit of the Society to Manchester were resumed on Wednesday morning by the meeting at the Town Hall for the reading and discussion of papers. There was again a large attendance, and the President (Mr. F. J. BRAHMWELL, F.R.S.) presided.

Mr. W. P. MARSHALL (the secretary) read a paper, prepared by Mr. Thos. N. Robinson, of Rochdale, on "Wood-Working Machinery." In the course of the paper the writer stated that the general employment of machinery for the conversion of timber was of comparatively recent introduction. Owing in great measure to the ease with which it could be worked with hand tools it was not until the great extension of all kinds of engineering enterprise in which timber in various forms plays such an important part, that the greatly increased and ever-increasing demand for converted timber compelled the adoption of a more rapid mode of production, which was only to be obtained by substituting a hand for manual labour. As yet the various principles involved in the use of wood-cutting machinery had had a very little theoretical investigation.

Our present knowledge of them being

the result of practical observation and experience. The writer then proceeded to deal with the subject under the following four different heads: First, the cutting tools; second, their speed; third, the general form and construction of wood-cutting machinery; and fourth, a description of machines used in the conversion of timber. The cutting tools were of three different classes—saws, which were merely used in dividing the material; cutters, which were used in finishing the material to exact forms; and boring tools. The speed of cutting tools acting on timber was mainly limited by the ability of the machine to withstand vibration and excessive wear and tear, and it had been found by practical experience that the best way to get rid of this vibration was to resist it by making the frame of the machinery in the most rigid form possible. Passing on to the fourth section of his paper, the writer described various machines for the conversion of timber, including the horizontal single-bladed saw-frame and the planing and moulding machine, illustrating his remarks by a number of interesting diagrams.

A long discussion ensued.

Sir JOSEPH WHITWORTH, Bart., read a paper "On Fluid Compressed Steel and Guns." He did not, he said, propose to enter into the consideration of the various chemical effects produced upon steel, but to confine himself to what had a more immediate and practical bearing upon the application of steel as a constructive material. The difficulty he experienced in obtaining sound ductile steel led him to institute experiments in compressing the steel while in a fluid state. The use of crucible steel for constructive purposes was being rapidly superseded by the metal produced in the Bessemer converter or the Siemens furnace; and although the crucible steel was yet occasionally specified and demanded on account of its supposed superiority, yet its superior quality which, when it existed, would be found to be due to the use of purer and better materials. He exhibited on the table before him specimens of fluid compressed steel, which had a tensile strength of 40 tons per square inch. The power of elongation was of the first importance for some purposes, as in guns, torpedoes, boilers, &c., and wherever severe strains might be suddenly applied; and it was now possible to produce with certainty, by the compression of fluid metal, steel that would bear a strain of 40 tons per square inch, and which elongated 30 per cent. of its length before breaking. After describing the processes of compression and forging, the speaker proceeded to deal with the question of guns, which he urged should be constructed of steel, and steel alone. Field guns were forged solid, and afterwards bored and rifled, the trunnion hoop being screwed on; but in larger guns the barrel was forged hollow, the strength and the weight being obtained by adding hoops according to the size. There was a controversy with reference to breech-loading and muzzle-loading guns, but the results which had been obtained with the former were far superior in every way to what was possible with any muzzle-loading gun. The speaker then detailed the results obtained in the experiments with his breech-loading guns, and added that the War Department were now making guns of enormous size at an enormous expenditure; these guns must needs be powerful on account of their great weight and size, but he maintained that this enormous size was unnecessary, for if monster guns were wanted they could be made at far less cost by means of the Siemens-Martin furnace and fluid compression; and, as regarded quality of material, good iron was given up being used at Woolwich some time ago, as it was found that weak poor iron was easier to weld and work than good iron. It was, however, just the contrary with the Siemens-Martin or the Bessemer process, everything being in favour of using good material. The speaker next dealt with the question of projectiles. Long projectiles, he said, gave greater penetration at both long and short ranges, also a much lower trajectory, except at the lowest elevations for short distances; and, contrasting the French studded system adopted at Woolwich with the polygonal system of shot, he said there was considerable saving in the cost of manufacture in the polygonal shot. With regard to the windage, the polygons shot must centre itself, whilst in the stud system there was both loss of force and an increased irregularity of motion due to defective centering.

A long and animated discussion followed the reading of the paper, after which votes of thanks were passed to various readers and writers of papers, to the Mayor of Manchester for granting the loan of the room, and the various firms in the neighbourhood for opening their works for the inspection of the members.

The PRESIDENT announced that the meeting was adjourned until October, when the members would re-assemble for the autumn meeting.

The members next proceeded to the works of Sir Joseph Whitworth and Co., Chorlton-street, and were shown over the tool and ordnance departments, when the processes were explained, and experiments made illustrating some of the remarks which Sir Joseph Whitworth had made in the course of his paper on fluid compressed steel and guns. Visits were also made during the afternoon by some of the members to the Mayfield Printworks, London-road, and Broughton Copper Works, Broughton-road.

In the evening the members were entertained at dinner by the Society for the Promotion of Scientific Industry. The dinner, to which upwards of 250 sat down, was provided by the Manchester Limited, in the large room under the Exchange, and the chair was occupied by Mr. Henry Lee.

THE INSTITUTION OF MECHANICAL ENGINEERS.

The summer meeting of the Institution of Mechanical Engineers was opened in Manchester, on Tuesday. The members met for the reading and discussion of papers in the Town Hall in the forenoon; Mr. F. J. BRAHMWELL, F.R.S., President of the Institution, in the chair.

Mr. FRANCIS W. CROSSLEY had prepared a paper upon "Otto and Langen's Atmospheric Gas Engine, and some other gas engines;" and in his absence the paper was read by Mr. W. P. Marshall, secretary. Messrs. Otto and Langen's engine was exhibited at the Peel Park Exhibition last year, and the writer of the paper in describing it said its main characteristic was the "free piston." The piston when impelled by the explosion rises freely, without at the moment actuating the engine, the motive power being obtained indirectly during the descent by atmospheric pressure acting on the upper side of the piston, there being a partially vacuum condition below it, following the explosion. In gas engines constructed previous to 1868, when this engine appeared, the force of the explosion was employed directly to supply the motive-power. Such was the case in the Hugon engine and the Lenoir engine. This principle of these engines was defective, because in them the explosion delivers its force against a piston connected to a crank and fly-wheel exactly as is done by steam in a steam engine. The effect of delivering this sudden blow against a piston connected rigidly with a heavy fly-wheel is simply that instead of the head set at liberty by the union of the oxygen and hydrogen in the explosion being converted into mechanical motion it remains in the form of heat, and has to be got rid of by a very large external supply of cold water, lest it should destroy the surfaces of the cylinder and piston, and even lead—as it has often done—to the buckling of the piston rod when it grows red-hot. In consequence, the common steam-engine pistons of the Hugon and Lenoir engines, with their connecting rods and cranks, will not, under any circumstances conceivable by the writer, enable them economically to utilise the suddenly generated and suddenly expiring force of an explosion. The blow given to the piston by the explosion is received by the heavy mass of the necessarily heavy fly-wheel, which cannot rapidly yield to it, and just as when a cannon ball strikes a massive target which it cannot carry along with it, a flash is the result, in which the energy of the shot disappears, so in these engines heat instead of motion is the result of the release of the stored energies of the gases, and in this case heat is not wanted. In the Otto and Langen engine the idea of a "free piston" involves great constructive difficulty. The engine is really a gun, which stands vertically with open mouth pointing upwards; the explosive compound of gas and air takes the place of the powder, and the piston represents the shot. The charge, however, is not sufficient to drive the shot or piston out of the gun, and only to within an inch or two of its mouth. The piston rod is a rack, and it gears into a toothed wheel on the main shaft of the engine, which is mounted on the top of the cylinder. The length of the rack is about equal to twice the circumference of the wheel, so that the single-acting character of the engine is very different in its effect from what it would be in a steam-engine. The toothed wheel refers to the shaft, which is keyed fast upon the shaft, but is attached to it by a clutch, which permits the piston and rack to rise without moving the shaft at all, and connects them on the down stroke only. Thus the shock of the explosion is not sustained by the shaft, and the piston is able freely to move away from it, being arrested only by the resistance of the atmosphere at the end of the stroke. There is also a great improvement in the "governor" principle in this engine. It is a very beautiful and advantageous feature in these engines that the governor is able to stop all motion of the parts except the fly-wheel and shaft, as soon as the work is thrown off, or less than full work is required.

Instead of—as with steam—having the piston rushing to and fro whilst no useful duty is being done, it is here at perfect rest, and there is, consequently, economy both in fuel and wear and tear, as compared with steam. It has other advantages in the power of starting at a moment's notice, and starting, too, at full power; in the fact that while the engine is standing no fuel at all is burned; in the very trifling attendance required, very much less than with steam; there is no trouble with coal and ashes, nor in many cases is any water consumed. The engine not having any boiler no boiler explosion can take place, and thus insurances are not affected by its use, or are only very rarely affected.

Taking all into consideration, the commercial side of the question is entirely in favour of the gas engine in the matter of economy of fuel. Taking fuel lost in raising steam and while a steam-engine is standing, and the cost while running, all into account, the gas engines have sometimes saved upwards of 10s. per week in fuel alone where they have replaced small steam-engines, besides the saving in attendance, which is often considerably more. The gas engine also realises a considerably greater percentage of the theoretic efficiency of the fuel than the best steam engines.

Mr. GEORGE H. DAGLISH (St. Helens) read a paper on "Direct-acting Winding Engines for Mines," in which he referred to the prin-

cipal types of engines at present at work in the different coal mining districts of the country, the paper being illustrated by numerous diagrams. He first referred to a single-cylinder vertical winding-engine having double-beat gunmetal valves and seats, with parallel motion and tappet valve motion. A number of winding-engines have, he said, been constructed of cylinder 34 in. diameter and 5 ft. stroke, and a winding drum 9 ft. diameter, having a engine winds coal from a shaft 10 ft. diameter and a depth of 450 yards in 55 seconds, or at the rate of 16 miles per hour; the time of banking is 30 seconds. The ropes used are flat, made of steel, and last about 18 months. The engine winds four tubs for the four. The cage and chain, which are of iron, weigh together 32 cwt., and the flat rope weighs 5 cwt. The total quantity of coal raised in ten hours' work is 250 tons, being at the rate of 25 tons per hour. The conductors are of iron. The repairs to this engine have been very few indeed, as it has worked night and day since its erection in 1842. Another similar engine has been at work between 20 and 30 years, and in the shape of repairs has had only a new piston and crank-pin.

A vertical single-cylinder high-pressure winding-engine of similar construction, which has been at work about seventeen years, has a cylinder 30 inches diameter and 5 ft. stroke, with parallel motion, and double beat gunmetal valves worked by two tapet-rods, one for each direction of winding. The boiler pressure is 50 lbs. per square inch, and a cast-iron feed-water heater is attached to the engine. The winding drum is 9 feet diameter. The pit shaft is 11 feet diameter, and 212 yards depth. The time of winding is about 35 seconds, and of banking 20 seconds, the average speed in the shaft being about 12 miles per hour. The ropes are flat and of steel, weighing about 28 cwt., and it lasts from 10 to 14 months. The tubs are of wood, and four of them are rated at each winding. Each weight 4 cwt., and contains 8 cwt. of coal, making 32 cwt. of coal at each winding. The cage and chains weigh about 20 cwt. The engine winds about 520 tons of coal in 10 hours' time, being at the rate of 52 tons per hour. The conductors are of iron. The writer next explained a coupled pair of vertical winding-engines erected some 12 years ago, having cylinders 24 in. diameter and 6 ft. stroke, and working with a boiler pressure of 40 lbs. per square inch; the valves were double beat gun-metal. The depth of the pit was 260 yards, and the winding was done in 35 seconds, or at the rate of 15 miles per hour. The ropes were round, and weighed 30 cwt., and held 7 cwt. of coal, making 28 cwt. of coal at each load; and the number of windings in 10 hours was 480, equal to 672 tons of coal, or at the rate of 67 tons per hour.

Up to 1850 the direct-acting steam winding-engines used in Lancashire or the neighbourhood of St. Helens were principally beam engines or vertical engines. About 1851 the horizontal single-cylinder high-pressure winding-engine was introduced by the writer's firm, and several such engines were put to work at different collieries. At that time great prejudice existed against the horizontal engines, in consequence of the prevailing idea that the cylinders would become oval by the weight of the piston, and this must be considered the reason why the piston-rods were carried through the back cover of the cylinders, and a slide or shoe attached to them for taking the weight of the piston off the bottom of the cylinder.

A pair of coupled horizontal high-pressure winding-engines were erected in 1851 at the Rose Bridge Colliery, near Wigan, having cylinders 38 in. diameter and 6 ft. stroke, with double-beat gunmetal valves. Steam was supplied by eight egg-ended boilers, 5½ ft. diameter and 36 ft. long, working at 45 to 50 lb. pressure per square inch. Up to 1870 these engines wound from a shaft 18 ft. diameter and 605 yards deep. The ropes were made of steel, and were flat and taper, each weighing 57 cwt. total and 48 cwt. in the pit; they had to be renewed about every 18 months. The number of tubs raised at a winding was four; they were of wood, weighing 12 cwt. each, and containing 8½ cwt. of coal, making 34 cwt. of coal raised at each winding; the cage and chains weighed 30 cwt. The number of windings in 10 hours was 500, raising 850 tons of coal per day, or at the rate of 85 tons per hour. The time occupied in each winding was 48 seconds, giving an average speed of 26 miles per hour in the shaft; the time of banking was 27 seconds. The winding drum was 20 ft. diameter at starting, and 23 ft. 6 in. diameter, with all the rope on. The conductors in the pit were iron wire-ropes, with a steel-stranded core.

In consequence of the seams at this colliery being worked out in 1870 at the shallower depth of 605 yards, these engines were then called upon to wind from a depth of 803 yards, and it was consequently found requisite by Mr. J. Bryan, the engineer and manager of the colliery, to increase the winding drum to 24 ft. 4 in. diameter, and 28 ft. diameter with all the rope on. The rope now in use is flat and taper, made of steel,

action being thus the same as that of the pendulum. This counterbalance works a bit 35 yards deep.

Another form of counterbalance is called the incline plane counterbalance, in which a weight of 2 tons is drawn up a curved incline.

The system of counterbalance in general use in the northern collieries is the chain counterbalance, and consisting of a long bunch of chain, which at the commencement of winding hangs suspended in the top of a staple or shallow pit. At the shaft, the whole of the large suspending chain, as well as the bunch, lies at the bottom of the staple. During the latter half of the winding the converse action takes place, the chain being drawn up out of the staple, and thereby producing a gradually increasing retardation upon the engine.

Some discussion followed the reading of these papers, and the meeting in the Town Hall was adjourned. In the afternoon the members visited the Pomona Exhibition of Machinery, where they were entertained at luncheon by Mr. Reilly, the proprietor of the grounds. The chair was taken by the President, Mr. F. J. Bramwell, who proposed the health of Mr. Reilly. He said the exhibition there was of an extremely interesting character. It did not profess to be one for the promotion of science, but was essentially of a commercial character. The idea had been formed of continuing it from year to year, and he sincerely hoped that the liberal way in which it had been originated, and the care bestowed in carrying it out, would realise the wishes of the promoters.

Mr. HULSE responded, and said Mr. Reilly felt great satisfaction in the visit, and he might add that the idea of the exhibition had entirely originated with Mr. Reilly, and they must look upon Mr. Reilly as the very personification of enterprise. That gentleman was essentially of a mechanical turn of mind, and the ideas of starting this exhibition had long been present to his mind. His idea was that this exhibition should be a dépôt where machinery of all kinds should be found, where any stranger coming to Manchester should find what he wanted in the shape of machinery. The success of the exhibition would entirely depend upon the amount of business done. At the conclusion the members went over the exhibition, and showed great interest in the various exhibits displayed. Messrs. Howarth's mill, Ordsall Lane, and Messrs. Chadwick's paper mill were also visited, as well as Messrs. Horsfall's indiarubber works, Whit Lane, where the process of making "cards" excited the greatest interest among the visitors. The exhibition at Cheadle Hill was also visited in the evening.

THE "KAINOTOMON" ROCK-DRILL.

This well-known machine, which we have from time to time noticed in the *Mining Journal*, is, we learn, being largely used in some of the most extensive mines in France and on the Continent. Six "Kainotomon" drills have been supplied to the Compagnie des Mines de Bethune; two of six others were delivered a short time back to the Société Houillière de Liévin; six have been delivered to the Blanzy Mining Company. We have before mentioned that six "Kainotomon" drills and three air compressors are employed in the Prussian Royal Mines; three drills and a large air compressor in the Saxon Royal Mines; three and an air compressor at the Ensor Blei und Silberbergwerk, Ems; at the Mirium Copper Works, Sweden; Tharsis Sulphur and Copper Mines; Mina da Lapilla, Spain; Klösters Aktiebolag, Sweden; Mr. T. M. Wilson, Norway, &c. This machine has also been selected by the British Admiralty for their harbour and other works, as well as by a very large number of important works in this country. Among others may be mentioned the Montreal Iron Mines, Whitehaven; the Barrow Hematite Iron Ore Company, Barrow; the Greenside Lead Mining Company, Cumberland; the Midcalder Limeworks, Midcalder; the Dog Kennel Limeworks, Sheffield; the Lugar Ironworks, Cumnock; the Summerlee Ironworks, Coatbridge; Great North of Scotland Granite Company, Peterhead; Messrs. Freeman and Son, Penry; Mr. John Hendrie, Coatbridge; Messrs. Whitley Partners, Leeds; Mr. W. Wesley, Mold; Moss Hall Coal Company, Wigan; South Wales Colliery Company, Newport; Manchester, Sheffield, and Lincolnshire Railway Company, for their quarries; Messrs. J. Lancaster and Co., Prescot; Linby Colliery Company, Linby; Messrs. C. Dixon and Son, Sheffield; Nerquis Coal and Cannel Company, Mold; Lord Leconfield's iron mines, Whitehaven; Mr. J. Askew, Ravensfield; Messrs. Hyde and Wigfull, Sheffield; Mr. J. Ashwell, Waterford; Lismore, and Dungarvan Railway, Ireland; Mr. P. McGinnis, Strabane; Dalmellington Iron Company, Cumnock; Glamorgan Coal Company, Cardiff; Mr. Thomas Cobb, Everton, Liverpool, &c.

We are always pleased to notice the advance made in the use of rock-drills, especially in private enterprise, as it appears to prove the advantage obtained by the use of these tools over hand labour, which we have always maintained must be very great when the machines are properly attended to.

COLLIERY PROSECUTION IN THE RHONDDA VALLEY.—Mr. John Williams, manager of the Hafod Colliery, was summoned to the Treherbert Petty Sessions, by Mr. Thos. E. Wales, Inspector of Mines for the South Wales district, for not supplying the shaft of a coal mine with proper communicating signals. There was also a summons against Mr. Thomas Jones, proprietor of the said Hafod Colliery, for the same offence, as the Act authorised proceeding against agent, manager, and owner. Mr. Thomas Williams prosecuted, and Mr. D. Rossiter. Mr. William Galway, Assistant-Inspector of Mines for South Wales, said that John Williams was the manager, and Thomas Jones the owner of the Hafod Colliery. On May 28 witness descended the pit, which is over 50 yards deep. Communication between the top and the bottom was carried on by the bankman calling out to the hatcher and vice versa. This was not a proper means of communicating between the top and the bottom of the pit. He saw no other means of communication. He was told there was none other. He saw no knocker.—Mr. Thomas E. Wales corroborated this above evidence. No exception had been made in the case which would justify this mode of signalling. The attention of the defendants was called to the matter on May 26, but the defect was not remedied on June 8, the day of Mr. Wales's visit. For the defence Mr. Rossiter called John Williams, manager, as a witness in favour of Mr. Thomas Jones, proprietor of the colliery. He said the depth of the pit was 136 yards, but that they only worked at a depth of 13 yards. They had means of signalling from the second landing, 10 ft. in the pit where the bankman stood, to the engineer. From there to the bottom of the pit they communicated by talking. On April 20 a proper signal was ordered. It had arrived there before Mr. Wales's visit. He (witness) was ordered not to erect the signal for a time, for fear of creating confusion. Mr. Galloway complained of the want of proper signals on May 26.—Cross-examined: The signals had not been put up yet, as Mr. Jones advised him not to do it. They would not be put up now, as they were going to proceed with the sinking, and it was not usual to put up signals when sinking.—His Worship said that the excuse for not putting up proper signals was a very lame one indeed. A second case against the defendants was then proceeded with under Section 20 of the Mines Regulation Act, for employing more than 20 persons in the said mine. William Galloway said that on May 26 he found 35 persons in the workings, and heard that there were three more. There were no means of communication from this shaft to any other. The men were cutting others were working as if making a communication with another pit, but was told by Williams that the night men had come in before in order to attend to a mass meeting. He was not shown any plan of the pit. For the defence, Mr. Rossiter pleaded that some of the men were engaged in making a communication, and that the night men had come in that day in order to attend a meeting. His Worship said it was no use to get an Act of Parliament if it was to be evaded in this way. It was a very clear act against the defendants, who were fined 40s. and costs in the four cases respectively.—*South Wales Daily News*, July 27.

MINING NOTES.—It must be borne in mind that eight or nine years ago we were quite as badly off as we are at this moment, and it was said at the time that we should not survive the depression, but the change came eventually, and this went up gradually until it reached 100,000 ton. It was during the last depression which attended his policy. Tin went up from about 47s. to 55s., and thence to 60s. and 65s., but still Capt. Boysen held on his stock. He saw that there would yet be a much higher rise, and spite of advice to contrary he refused to sell even when 70s. was reached. After this, however, some of the adventurers became exceedingly nervous, and pressed—aye, almost implored—their managers to sell, and I think, 71s. per ton. He thus realised the handsome profit of 4000 guineas, and he certainly deserved the testimonial which the adventurers presented to him. But he told them that they had been a little too hasty in desiring him to sell at that time, and that had they waited for a few months longer their profit would have been much greater. The result proved that he was correct. It was not until last week that I was informed upon the best possible authority that tin actually did reach 100s. a ton. This has always been a doubtful point, and the general opinion is that the highest figure reached was 99s. 5s. But I am now assured by one of the best known mine managers in the county that he sold a parcel of about 20 tons of tin to a Cornish smelting firm at the full sum of 100s. per ton. The past gives us some hope for the future; and it is the past, more than any present existing circumstances, which induces the belief that a change for the better is near. I see Mice at work as speedily as possible. A meeting was held last week at which all the directors, the promoter, the solicitor, and the purser were present. It was decided that the services should be secured of Capt. Joshua Thomas, of Dolcoath, and Capt. Rich, of Wheal Uny, and Capt. Holman, of South Cadron, who will consult with the directors relative to the first point of operation; and the working of the mines should be proceeded with forthwith.—*Western Daily Mercury*.

MANUFACTURE OF GAS.—The invention of Mr. GEORGE WALLER, of Holland-street, Southwark, has for its object the construction of retort lids and mouthpieces, whereby they may be sealed, or the joint between them rendered watertight without the aid of ordinary luting; and consists in casting up on the faces or front end of the mouthpiece is cast so as to form a curved and threated edge, which partially covers the flange first mentioned. The dovetailed groove is filled with a ring cast in soft malleable metal. A lug or lugs are cast on each side of the mouthpiece; and to this lug or lugs is hinged the lid or door, corresponding lugs being also cast upon it. The door is cast with a turned up and

shaped edge. To the lugs before mentioned is hinged also a cross bar, which is received into a staple hinged to the mouthpiece on the opposite side to which the door is hinged, and furnished with a small screw and cross handle. When the door is closed the V-shaped edge of the lid is brought into contact with the soft metal ring, and upon the staple being brought over the end of the cross bar and the screw turned, such a pressure is brought to bear upon the lid as will cause its edge to bed itself in the soft metal and thus form a gas-tight joint. A modification of the foregoing consists in casting a projection upon the flange of the mouth piece, and a recess for the reception of soft metal in the edge of the lid, the effect when the lid is closed being similar. A second modification consists in casting a projection upon the flange of the mouthpiece, which projection, together with the surface edge of the lid, is turned with a flat face. Instead of the staple having a screw, as before described, it may have inserted in the slot a roller, which is brought to bear upon the curved end of the cross bar by means of a short handle attached to the staple or slotted piece.

Meetings of Public Companies.

CARDIFF AND SWANSEA SMOKELESS STEAM COAL COMPANY.

An extraordinary general meeting of shareholders, adjourned from July 8, was held at the City Terminus Hotel, yesterday,

Colonel J. D. SHAKESPEAR, F.G.S., presiding.

The minutes of the last meeting were read and confirmed.

The CHAIRMAN said the meeting would remember that on June 8 a committee was appointed to investigate certain matters connected with the property, and that committee made its report on July 8, when it was produced in that room before being circulated amongst the shareholders. However, since that time every shareholder had received a copy of that report, and he might presume was acquainted with its provisions. Now they had to decide what course they should take upon the report. In the opinion of the solicitor that report could be adopted. He had nothing more to say upon the subject, except to ask whether anyone had any suggestions to make upon the matter.

Mr. BATCHELOR said, before any resolution was moved, he should like to ask why the report in its entirety was not published to the shareholders? The two reports ought to have been circulated together for the information of the shareholders.

The CHAIRMAN: This report is the only one I am acquainted with, it was handed to the solicitor, and was, I suppose, dealt with according to law.

Mr. BATCHELOR: A second report was made by Mr. Bell.

A DIRECTOR: But not adopted.

Mr. BATCHELOR said the second report was read on the proposed adoption of the first one. There were two reports from the committee—the one unanimously agreed to, and the other not unanimously, but still by a majority of the committee of investigation. In order that the shareholders should be in a position to understand the views taken by the committee, or by the majority of them, they should have those views placed before them in connection with the report of Mr. Bell. He, therefore, held that it ought to have been distributed with the other report.

The SOLICITOR stated that he attended a board the day after the meeting, and it was not understood that that recommendation should be sent to the shareholders, as on reading it through they came to the conclusion that the report would be clearer unaccompanied by the document which was called a *resume*. The report had been sent out *verbally ad literatum*, and sent to the shareholders, and there was no intention on the part of the board to keep anything back, but to get every shareholder to inspect the matter thoroughly.

Mr. BATCHELOR said that immediately after the report was read Mr. Bell read a second report, on which the committee were not unanimous. It was important to the shareholders in this way, it advised the reduction of the remuneration of the directors, the removal of the managing directors, and the removal of the company's offices to Wales.

The SOLICITOR said the meeting was adjourned until to-day to consider whether the report which had been circulated should be adopted, and the business commenced at previous meetings carried out. The matters contained in the *resume* were all questions which could be dealt with at ordinary meetings; moreover it was understood that each document should not be adopted with the report, and that view he believed to be legally correct.

Mr. BELL moved, "That the report of the committee of investigation having been circulated amongst the shareholders the same be adopted."—Mr. DAWSON seconded the motion.

Mr. WILSON, in the course of a long speech, asked the Chairman of the committee of investigation whether a charge was made before the committee that before the property was purchased the vendors had entered into certain agreement with the Government in connection with ventilating shafts required to be constructed. They ought to know what their liabilities were, and also their exact position with regard to vendors' liabilities before deciding on adopting the report.

Mr. BELL said they could give no other answer than that contained in the report.

The CHAIRMAN: The reports were paid for by the vendors, but you must recollect that two of them were your directors. The committee report, with regard to the purchase, that whilst larger sums were paid than would be paid at the present time they were little, if at all, above the value at the time of the sale.

Mr. WILSON said the report was proposed for adoption, and seconded, but he doubted whether they were in a position to adopt it. He handed in the following protest:—"I protest against the resolution on the ground that by adopting the report the meeting would appear to sanction terms of compromise which the committee were not empowered to negotiate, which the meeting was not convened to discuss; and as to the sufficiency of which, the shareholders are not in a position to judge until they have before them a statement of the reasons which have led the vendors to accept of the proposed compromise."

Mr. DAWSON explained that if one or another of the questions asked by Mr. Wilson were gone into the meeting would be detained all day. The committee found the alternative was either to accept a compromise or go into Chancery. The committee were not empowered to negotiate with the vendors, but they considered it their duty to give the shareholders recommendations for the future working of the collieries, as well as to report on the position in which affairs were found. The compromise was not the suggestion exclusively of the vendors, but was arrived at in consultation. The committee had not gone to any eminent mining engineer to report on the expenditure necessary to produce 2600 tons a day, inasmuch as their time was limited, and Mr. Bell was a mining engineer himself.

Mr. SHAW, M.P., strongly urged the shareholders to adopt at once the offer of compromise. The alternative would be a long Chancery suit, which might last three or four years; all the capital would have to be called up, and then the company might not be successful. But the compromise must be conditional; the condition must be this: it must be a *sine qua non* that Mr. John Corry must not interfere with the collieries in any way whatever. (Hear, hear.) He (Mr. Shaw) had made enquiries of very eminent authorities in Wales, and found that the company had got a very able mining engineer in Mr. William Thomas, who ought to have the collieries placed under him. (Hear, hear.)

The CHAIRMAN, in reply to the invitation of some shareholders, said the report of the committee was the shareholders' business, and he would decline to express any opinion upon it, although his opinion must be well known, and he did not oppose it.

The resolution was then carried unanimously, with the exception of Mr. Wilson's protest.

The following resolution was moved by Mr. BELL, seconded by Mr. DAWSON, and carried unanimously:—"That the solicitors be instructed to carry out the modifications of the two agreements with the vendors, dated respectively May 21, 1873, mentioned in the Memorandum and Articles of Association of the company as stated in the report to have been agreed to between the committee of investigation and the vendors."

This terminated the business of the special meeting.

THE ORDINARY MEETING.

The ordinary general meeting was then held.

The CHAIRMAN, in moving the adoption of the report, said that about a year ago circumstances came to his notice which obliged him to take serious action, to make enquiries into matters which appeared to be very unsatisfactory, and the result of this had been the extraordinary meetings, and the enquiry which had to be made into certain things. That he was thoroughly justified in what he did he might point to the opinion of the committee of investigation, and the compromise and concessions offered. They must not expect him in consequence of that to altogether explain the balance sheet, which had been before them all.—Mr. P. F. MORLEY seconded the motion.

A SHAREHOLDER asked an explanation of the item "bills payable, 33,543/-"

The SECRETARY explained that there was a joint promissory note for 10,000/- given to the bank, for the purpose of getting advances, signed by the Chairman and Messrs. Coats and Cory. They could not well afford at the time to pay out of the money at the bank the money due to the vendors, who, therefore, to oblige the board, drew for the amount. In addition to that, they had been in the habit of paying their wages, and also some of their bills, by drawing for advances made in that way. The amount had been considerably reduced since April 30, the date of the balance sheet. They had been always wanting money, and were obliged to resort to such expedients as those explained. The money could not be obtained from the bankers by merely hypothecating their calls unless the directors joined in a joint and several promissory note. He might explain that another call would be made as soon as possible.

The Rev. Mr. TILLEY complained of the practice of lumping things together in one item of expenditure.

The CHAIRMAN said the particulars could be obtained at the office, or from the managing directors, who were present.

Mr. YEO begged to say that he never spent a single penny at the colliery without the direction of the board. He had never bought so much as a basket on his own initiative.—Mr. JOHN CORY made a statement to the same effect.

The CHAIRMAN said he never spent a shilling at Resolven except on the recommendation of Mr. Yeo.

The board never had any control over the expenditure of their colliery. A resolution passed by the board, that no money should be spent except on the authority of the board, had been sent down to the colliery, but taken no notice of.

The motion was carried, the only dissentient being Mr. Wilson.

The SECRETARY read the engineer's report.

A motion made by Mr. MOXON, seconded by Mr. JENKINS, was put to the meeting: "That the remuneration of the directors shall be reduced for this current year to 500/- per annum." This motion was put to the meeting; but the Chairman declined to state whether the resolution was or was not carried, but stated that six shareholders demanded a poll, which the solicitor declared irregular. A long scene of confusion ensued, which was only terminated by the Chairman proceeding with the election of directors.

The Chairman was re-elected. Mr. Shaw, M.P., and Mr. Delost, were elected directors. Mr. J. H. Cory announced that he withdrew from the board. Mr. T. W. Shaw, of Wolverhampton, was elected a director.

Mr. SHAW, M.P., remarked that it was a curious fact that every one of the

gentlemen who proposed the reduction of the amount paid to the directors declined to serve on the board.

Mr. Morley was re-elected a director. The auditors were re-elected. A motion was carried awarding 200 guineas to the investigation committee. The meeting then separated.

PATENT COTTON GUNPOWDER COMPANY.

An extraordinary general meeting of shareholders was held yesterday at the offices, Queen Anne's Gate, Westminster, to consider the present position of the company, and certain proposals to obtain further working capital. The meeting was presided over by Major JOHN RAMSAY L'AMY, Chairman of the board, and amongst those present were—Mr. Danlop, Col. Gawler, General Gardiner, Dr. Lane, and Col. Potter, directors; Mr. S. J. Mackie, general superintendent; Mr. Godden, solicitor, to the company; Messrs. W. H. Nicholson, J. N. Simpson, R. Punshon, R. Few, C. Ellerman, S. W. Wentworth, F. S. Joseph, Vizer, Cawton, Major M'Cree, &c.

The CHAIRMAN opened the proceedings by apologising for the absence of two directors—Lord F. Kerr and Col. Lees—who were abroad. He then said:—Before moving the resolutions placed on the circular which had been sent to you, and which explains the reasons why we are met here to-day, I wish to be permitted to make a few observations which will, I hope, satisfactorily explain our present position financially and otherwise, and I shall endeavour to show you what that position will be supposing that you this day carry out the resolutions suggested in the circular we have sent to all the shareholders by voluntarily dissolving the present company and by immediately forming a new one, with a capital not exceeding 30,000/. The original capital of the company was 120,000/, but as cash and shares to the amount of 71,000/- only had been subscribed for and issued under the agreement with the vendors—that is the sum on which, supposing the company to have been successful, dividends would be payable in the first place. But as that cannot be, we now propose to form a new company with a capital of 30,000/, divided into 15,000 shares of 2/- each.

"The old shareholders will absorb about 7100 shares, which will be distinguished as B shares in the new company, and represent a nominal amount of about 14,200/- to be issued as fully paid up, and delivered in exchange for the share certificates or warrants of the old company. Out of the remainder it is proposed to issue 5000 shares, of 2/- each, as preference or A shares, and to be paid for in instalments, such shares to bear a preferential dividend of 10 per cent, and also to participate in all profits beyond equally with the other shares."

As the remaining funds of the present company now only amount to

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London and North Western Railway Company are sinking a tunnel, in which he stated that the company's explosive was greatly preferred, as it advanced the work quicker than black powder.

General GARDINER: Our receipts in January were 2/ 14s.; in February, 28s.; March, 29s.; April, 32s.; May, 41s.; and June, 45s.—so that there was a regular and rapid increase.

Major M'CREE: That is most satisfactory. We are, I take it, entitled to have every possible information, and must, therefore, ask some questions. You have said that Punshon's patent was a worthless thing, and all the money you paid for it sunk; but that you are now working new patents. Whose are they?

The CHAIRMAN: They were taken out by Mr. Mackie, Mr. French, and Mr. Faure, and are assigned to this company, and duly registered.

Major M'CREE: Then we are in full possession of them, but is that for abroad as well as for England? —The CHAIRMAN: Yes, the patents are all in proper form.

Major M'CREE: It is very important that this should be clearly understood.

Mr. MACKIE: My name is attached to every patent, and I have assigned my rights, and the other men have done the same.

Major M'CREE: But suppose the patents should be worked in some foreign country, are we in a position to take legal steps to prevent that?

Mr. GODDEN (the solicitor) said that as yet no patents in foreign countries had been completed. There were two difficulties in the way. One was the expense, and the other was putting them into operation. Everything had been done that the directors with the limited means at their disposal could do, but, having only limited means, they had concentrated their attention upon England. As regarded the new company, it would stand in the same position as the old with regard to these patents. It was to be formed to take over the old company.

A SHAREHOLDER: Why is it necessary that the shares should be reduced in value?

The CHAIRMAN: Because, under the circumstances, it was the best course to take. The old capital of £120,000., on which it would have been necessary to pay dividends, whenever a dividend was forthcoming, and the 2/- shares proposed to be issued would really be better than the old 10/- shares, which were now nearly valueless. Besides, by dissolving the old company they got rid of the promoters, one of whom was Mr. Longbottom, who was connected with the Canadian Oil-Well Company.

Major M'CREE quite approved of the dissolution of the old company, as they would then be perfectly free, and get rid of the liability of objectionable persons taking up a large number of shares. As, however, the directors had been utterly deceived as to what they formerly put before the shareholders, and it was important to the shareholders that they should know they were not going to be deluded again. He believed they had now a good thing in hand, and he was most anxious their foreign patents should be secure; and there would be a difficulty, he feared, arising out of there being three inventors who must be parties to the foreign patents. If all these things were put to rights their plan seemed to him entitled to the confidence of the shareholders. It appeared to him that it was the only chance they now had, and if they did not accept it they might as well throw up the sponge. (Hear.)

Mr. DUNLOP reminded the meeting that time pressed, and if they did not decide to go on with this scheme they must go into the liquidation court.

Mr. CANTON: Why is that dreaded? —Mr. DUNLOP: It would dissipate all the capital left.

Mr. GODDEN said that under the proposals of the directors the old company would slide into the new with very little expense. If this meeting was in favour of this arrangement, it could bring about the change easily, and at comparatively no expense.

Mr. DUNLOP: The only wish of the directors was that the shareholders should have all the facts before them. He had not adopted this new scheme of reconstruction without great consideration, and he would state the reasons why at last it became favourable to it. He had considered all the points against it, as well as those in its favour. It appeared to be thought by Mr. Vizer and his friends that it was unfair to the original shareholders. But it must be remembered that the value of the shares now was not more than 30s., and it was thought that to put the new ones at 40s. would be dealing fairly with the old shareholders, to whom, in the first instance, all the new preference shares were offered. After all, it was but a small amount. Very few of the shareholders had a heavy stake in the concern. There were very few who had so much as 100 shares, and the directors had each 200. Their bankers and a few others outside the board had the same; and they, on seeing the scheme, had announced their willingness to double their risk. If bankers and men of that stamp had such confidence in the new scheme, the general shareholders might depend upon it that it was well devised, and likely to prove advantageous. What Major M'Cree had said about the inventors was very much to the point. Patents in which three or four inventors were concerned were liable to complications, but everything had been done to protect the shareholders. One of these inventors had given up everything to them, and had been most devoted and loyal to the company—(Cheers)—and Major M'Cree, of course, could not be alluding to the other two inventors when he feared difficulties. But they had signed a document assigning to the company all their rights and interests. Their signatures were, no doubt, important in obtaining foreign patents, but there was no reason to fear any difficulty on that point. Indeed, one of them (Mr. French) had just made an excellent bargain for the company as to France, and was forming a company there to work the inventions. Similar arrangements were far advanced in America. (Applause.) The present movement was taking time by the forelock, as it would be obvious from the balance-sheet that they might go on for some time. There was, for instance, 2000/- owing to them from customers: but they had not been pressed for payment, as it was found that the best way to ensure the continuation of their custom was to give credit. They had now an excellent blasting material. It was a new invention—

Mr. PUNSHON: How can you say that?

Mr. DUNLOP: Well, I do not say Mr. Punshon's inventions are worthless, but I must say honestly that they were imperfect, and not worth the money Mr. Punshon got for them, or his friends.

Mr. PUNSHON: Friends, enemies you mean. (A laugh.)

Mr. DUNLOP: Really our friend is so Protean that when one gives him a slap on the shoulder it may hit Mr. Longbottom. (Laughter.) All he (Mr. Dunlop) meant to say was that it was an imperfect invention, and however valuable it might turn out hereafter it had not yielded to this company the profits expected from it; but all that was to the fore. The object of this reconstruction was to get rid of 70,000/- of contingent liabilities which might arise from this imperfect invention, which had already cost the company 36,000/- The new explosive they had in its place was stronger and safer than anything known to science, and since their demonstration of its powers in February last, orders had been steadily and regularly increasing, but if they were to go on and prosper they must produce large quantities, and 50,000/- of capital was required for that purpose. No doubt they had a dangerous rival in dynamite, because miners did not care a fig for danger if they saved 1d. per lb. He had lately been in Wales and visited several lead mines, where on account of its smokelessness their explosive would be most advantageous, but while they could get powder for 5d. per lb., and had to pay 2s. per lb. for the company's explosive, which allowing for the greater effect of smaller charges, still left it at double the price of the other, they had no chance. If the cost of their powder could not be reduced, his advice was that they should have nothing to do with this new company. But the unexpected perfection of the new acid plant—and nitric acid was their chief element of cost—had brought about so great a reduction that cheapness as well as power would soon be the characteristic of their powder. He had received the following letter from their agent at Newcastle-on-Tyne. He had written to him privately, as a friend, to ask his candid opinion, and this was his reply:—

"The only difficulty I have ever met with in introducing the cotton gunpowder has been the cost. Unfortunately, we have fallen on a period of reaction both in coal and iron mining, and every item of cost is weighed and noted with the utmost minuteness. I believe that in this district there might be found an amount of work of an exceptional character, when the ordinary powder fails, which, with a proportionate demand from other districts, would be sufficient to keep the present works going at the present price; but to ensure the general adoption of the powder it would be most desirable to reduce the cost. I find that where it has been used, as soon as the difficulty is got over the use of the ordinary powder is resumed. It is very advantageous in drifting when the rock becomes very hard; but as in a narrow drift the charges are small—often 2 oz. or less, than any other—the cost of fusing and detonators becomes considerable. If this powder could be sold at 1s. 4d., the demand, I believe, would be practically unlimited; and at present, until you have works capable of producing the quantity which would admit of such a reduction, I think if the detonators could be given in the sale would be considerably facilitated. I have the promise of an order from ... the amount of which has not yet been settled; and I have little doubt we can have the next large blast there. I am in treaty for another blast of the same kind, but on a smaller scale, in a stone quarry in the neighbourhood; the powder is now on trial with very promising results, according to the last accounts I received, at the Crumlington Collieries, near Newcastle. There are five pits in that district, employing 5000 hewers; and if the powder on extended trial is found to answer up to the first experiments, they would adopt it as an article of regular consumption wherever applicable. At present the completion of several drilling-machines which they have ordered is suspended until they have determined the best size of drill. The powder is also on trial at Sacriston, Whitby, and Felling in drift-work, and in two new sinkings in the county of Durham, and there is a good prospect of doing business with all of them. If increased production allows of a reduction in the cost, as I presume it would, I do not think there can be a doubt of a good return on the additional capital required. All the properties of the powder—its hardness, safety, power, and smokelessness—are much liked; the price is the only stumbling-block."

After much consideration he had determined to take his share of this additional capital, and he trusted that the shareholders would, for their own sakes, do the same.

Mr. VIZER strongly objected to the scheme as one which practically snuffed out the original shareholders, and put forward a hypothetical case to prove that the A shareholders would get 23% per cent., and the B shareholders only 12%.

Dr. LANE pointed out that it was expected that the additional capital would be subscribed by the shareholders.

After some conversation the following resolutions were agreed to:—

1. That the present company be wound up voluntarily, and for the appointment of liquidators—and that such liquidators be authorised under the 161st section of the Companies Act, 1862, to carry out the arrangement herein referred to, or any other arrangement which they may deem expedient within the limits of that section.

2. That a new company be formed with a capital of 30,000/- in 15,000/- shares of 2/- each, to be entitled the New Patent Cotton Powder Company (Limited).

3. That the whole of the property, assets, and liabilities of the present company be transferred to and assumed by the new company.

4. That in consideration of such transfer, the shareholders of the present company shall receive for each of their present shares one fully paid up share in the new company to be distinguished as B shares.

5. That 5000 other shares of 2/- each in the new company to be subscribed, and to be paid for by instalments, and distinguished as A shares, shall be entitled to a preferential dividend of 10/- per cent per annum, with equal participation in all profits beyond.

Mr. Punshon's proposal to take up all the preference capital himself, &c. (as stated above), was moved by him as an amendment, but did not find a seconder. A similar fate befel an amendment proposed by Mr. Vizer, as to the terms on which the new shares should be issued.

Major M'Cree and Gen. Gardiner were nominated as liquidators, under the first resolution.

It was agreed that the legal meeting, to confirm these resolutions, should be held on Aug. 20, at noon, when the directors would be prepared to state in detail now the expected profits would accrue, and what was the legal position of the company as to their property in foreign countries.—The meeting then separated.

THE FLAGSTAFF SILVER MINING COMPANY OF UTAH.

The adjourned ordinary general meeting of shareholders of this company was held yesterday at the City Terminus Hotel, Cannon-street,

Mr. J. T. TWEED in the chair.

Mr. A. A. DE METZ (the secretary) read the notice convening the meeting.

The CHAIRMAN said: Gentlemen, I am extremely sorry that we do not meet under more auspicious circumstances than we do to-day, for I had hoped at the last meeting that we should have received a far more favourable account from Mr. Woodfield than we have done. However, we can only consider things as we find them, and we are now here assembled to-day as men of business for the purpose of giving that report all the consideration it merits, and in effect to determine what is best to be done under the circumstances. Gentlemen, before alluding to this, I may say that perhaps you will think that the gentlemen who sit by the side of me are comparatively few in number to what they were at the last time we met; and when I have gone through the ordinary business of the meeting, I will state to you what has been the cause of a misunderstanding that has existed between some of the gentlemen who sit upon this board. Gentlemen, before proceeding any further, I do not know that I should refer in any way to anything that might be said in public journals; but since it is perfectly right that the shareholders of a company should know exactly what is effected by the directors, it is unfair and unjust to have the feelings of shareholders worked upon, or made rather suspicious as to what has transpired. I have heard it stated that there is a fear that the directors, after they received Mr. Woodfield's report, kept it in their possession without at once giving it publicly. Now, I will state the facts. On Monday, the 19th, the report of Mr. Woodfield arrived in the office. Two of the gentlemen sitting by the side of me were, I believe, in the office at the time it arrived. They naturally, of course, opened it, and perused it, and they put it at once in the printer's hands, that it might be printed and circulated amongst all the shareholders. (Hear, hear.) Gentlemen, I think that statement will—and perhaps you will forgive me for using the expression—give the lie to those persons who have stated what has not been the truth. (Applause.) Now, gentlemen, in addition to this report, which I assume you have read and thoroughly understand, because you have had the means of knowing as well as myself, and which I may take as read, and on which I shall be most happy to hear any remarks to be made afterwards, I have received another, or rather the directors have received another communication from Mr. Woodfield, in which he sends the company's accounts, and they, I regret, are not more flourishing or more auspicious than the report. The amount he makes out, I have put down shortly for you. There is due to Mr. Davis, according to this statement, 50,100/-; there is also due upon the general indebtedness of the company 40,000/- and odds; making together the sum of 90,000/- and odds. How this indebtedness arises I am going to explain. There is due to Mr. Wood and Mr. Cormack 34,664/-; to Disney Bank, for loans, 12,000/-; to Ohama Bank, 33,000/-; making 79,664/-; to Mr. Patrick, on hauling, which, of course, must be considered a sum in dispute, 10,454/-; sundry creditors, 14,000/-; wages, 12,000/-; machinery, 10,000/-; lawyer's salary, 6,200/-; Thomas Patrick's salary, 5,000/-; J. Patrick, 5,000/-; due on bills to Patrick, 24,000/-; lawyer's mining dispute, 27,000/-; Gorge Collie's mining account, 2100/-; amounting altogether to 238,000/-, or 44,100/-, making the amount due 94,511/- Mr. Woodfield says very properly that there are several of these sums in dispute; for instance, there is 2900/- charged for telegrams between Mr. Patrick and Mr. Davis, and what this company has to do with this I cannot see. There is interest on borrowed capital, 10,845/-; so that Mr. Davis, although he is in possession of this, and under his contract claims 6 per cent., he gets Mr. Patrick to borrow money of banks for the purpose of carrying on his own business, and charges something like 20 per cent. for these loans. Then he says he employed Capt. Patrick, a brother of Mr. Patrick's, for the purpose of managing this matter, at 507/-, and then there is a contract between Mr. Patrick and Mr. Davis by which haulage is charged a great deal more than it ought to be, viz., 41,420/- These sums it is unfair to charge against this company. There is a correspondence which Mr. Woodfield sends to us between Mr. Davis and himself. Mr. Woodfield writes to Mr. Davis and says: "At present you and we cannot possibly settle these accounts; let them be referred to some honourable man, and let him be the referee to have all that settled." But with that dignified kind of general suavity which seems to pervade the character of Mr. Davis, he always kindly and gently declines; first saying that there is really nothing in effect to arbitrate upon at all. Mr. Woodfield has made a suggestion, and says, as to Mr. Patrick, that he cannot hold any correspondence with him until these charges are to be withdrawn. I am never for looking back and stating what has happened in reference to this matter; I have always been in union on it, and I now hold that you will never get settled with Mr. Davis until you have a legal right—(hear, hear)—and a legal decree against this man for your rights. I know that various shareholders took different views of the matter. I have never changed in that view, and so strongly do I hold it that I think it is high time for the shareholders to take this matter into their own hands, and tell us what they wish to be done. I tell you that we are almost in a state of helplessness, so long as we keep trying as it were with Mr. Davis conciliatory terms, and on the other, but we get no mine nor any money, and the accounts seem still rising against you. Gentlemen, the matter is with you; you know now all that the directors know. Every person has done what is to be done with Mr. Davis. I tried; Mr. Woodfield had instructions to do everything he could, but we have nothing but Mr. Davis in possession of the mine, Mr. Patrick doing as he likes, and you without any money and your shares comparatively worthless in the market. If you take the other view, I am ready to act with you, if it is decided to try again, and ask Mr. Davis to do something else, that is to consent that a receiver be appointed. I do not say for a moment that conciliatory measures should not be adopted, but I must say to you that it does appear to me hopeless unless you adopt some such course; we must go into the courts at Utah and fight this mass with his own weapons. That is how the matter stands, but I should say it is utterly impossible for any matters to be carried out for the benefit of the company, if there is not an entire unity again amongst us. I for one am willing and anxious to retire from the seat at the board, and I would do so gladly, but I would not wish to leave you in the lurch unless you wish it. I am not the one to go on a certain time, and when I find nothing prospering say, "I must have nothing to do with them"; but I do think it is essential to the interests of this company that there should not be two parties on the slightest dissension amongst the directors. (Hear, hear.) Now you will bear with me, I have never changed in that view, and so strongly do I hold it that I think it is high time for the shareholders to take this matter into their own hands, and tell us what they wish to be done. I ask him first one thing against you. Gentlemen, the matter is with you; you know now all that the directors know. Every person has done what is to be done with Mr. Davis. I tried; Mr. Woodfield had instructions to do everything he could, but we have nothing but Mr. Davis in possession of the mine, Mr. Patrick doing as he likes, and you without any money and your shares comparatively worthless in the market. If you take the other view, I am ready to act with you, if it is decided to try again, and ask Mr. Davis to do something else, that is to consent that a receiver be appointed. 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The CHAIRMAN said that nothing would give him greater pleasure than to find men who would serve the company's purpose, but if Englishmen were sent out the people over there had money enough to pay them to be dishonest, and therefore the directors were told that they must appoint an American to cope with those Americans.

A SHAREHOLDER: Have no New York firm any good correspondent in Utah?

The CHAIRMAN: I should think so.

The SHAREHOLDER: We shall never get along unless we are well represented on the other side.

The CHAIRMAN: I quite agree with you.

A SHAREHOLDER expressed an opinion that plenty of persons of high standing from N. W. York could be got to represent the company.

Mr. T. G. TAYLOR said that in order to leave the matter of the appointment of the new directors in the hands of the present board, he would move the following resolution—"that the remaining vacancies in the board be left in the hands of the directors to fill up as they may think fit." He did not know whether it was the intention of those gentlemen to renew the negotiations with Mr. Hopkins or not, but the probability was that Mr. Hopkins, being a competent engineer, would be an eligible gentleman to act as a director of the company.

Mr. H. GRAY seconded the resolution, which was put to the meeting and carried.

Mr. HOPKINS, C.E., said that as his name had been mentioned he should like to say a few words before the meeting broke up. Until about two months ago he had

no interest in this company, but he had the honour of the acquaintance of Sir Leopold Heath and Sir Leopold Heath thought his (Mr. Hopkins's) engineering knowledge which he had acquired as a director of the Richmond Mining Company, might be of some service to this company.

Sir Leopold Heath at this moment was one thing which it was difficult to say whether one ought to regard it as a compliment or not—(a laugh)—but when Sir Leopold Heath proposed it to him, he felt it was a matter which required serious consideration,

for he felt that whoever took a seat at this board would have to work hard up hill.

He had been through it once at the Richmond Company, and

he had no wish to go through another such experience. Personally, he was

somewhat sorry that Sir Leopold Heath had asked him to join the board, and

it was only out of respect to Sir Leopold Heath that he reluctantly consented to do so.

Having resolved to comply with Sir Leopold's wish, he gave instructions to his

brother to buy what he was led to suppose was a qualification of 100 shares, which

he purchased at £2 per share. He knew no member of the company, and had pre-

viously had no interest at all in it, nor had any of his friends. At that time Sir

Leopold Heath was under the impression that the company was rapidly going into

smooth water, and had great hopes of a favourable report from Mr. Woodfield; and

he was led to expect that the time was not far distant when the company would

achieve the first step which was necessary to success—namely, to get possession of

their own property. Until that was done he could not see that the shareholders

could do much. (Hear, hear.) He exceedingly regretted that the steps taken by

Sir Leopold Heath should have had, in the slight degree, the effect of introducing

any element of discord into the board of the company, because they had trouble

enough already without that, and he should be sorry to be the unconscious cause of

even the slightest disagreement, and he might state to those gentlemen who re-

tired that he had no wish to join the board. At the same time, having now an

interest in the company, and having given this personal explanation, he hoped he

should now be able to see what could be done for the benefit of the company itself.

Perhaps the chairman would excuse him for asking whether there was any informa-

tion in the office at all satisfactory to the directors relative to the negotiations be-

tween Mr. Davis and the company, for that was the starting-point of the whole

matter. (Hear, hear.) Whilst the vendor was in possession of the mine, it was

worth attempting to do anything. He could not ascertain from Mr. Woodfield's

report much concerning the many points upon which he should like information.

Mr. Woodfield had stated that the eyes of the mine were worked out, and all that

was in sight taken away, yet Mr. Woodfield had led them to believe that there was

a brilliant future before the company, though upon what ground that brilliant future

was indulged in he did not know; but it seemed to him that when a mortgage was

in possession of a mine, and working it for his own benefit, he would work it in a

manner which would pay him, and give him the most money. Whether the mine

had been worked at a profit or not he could not say; he should have liked to have

known, and it would be well for the directors to ascertain, how the mine had been

worked since Mr. Davis had it in his possession, and what it had cost to timber the

mine. He had looked carefully through the accounts, and although the expen-

iture was heavy, he did not see an item which led him to suppose that Mr. Davis

had spent money in timbering the mine.

The CHAIRMAN said he really could not give any further information than was

contained in Mr. Woodfield's report. Neither he nor his brother directors had re-

ceived any further information which showed that any progress had been made in

the negotiations with Mr. Davis. What Mr. Davis said was in effect this: "I

want £40,000, and if you give it to me I will give you possession of the mine." He

is not disposed to budge at all from that.

A SHAREHOLDER asked whether the directors had discussed the desirability of

taking legal proceedings?

The CHAIRMAN: That is a matter which I hope you will discuss at this meeting.

Sir LEOPOLD HEATH said that Mr. Davis did not want all the 90,000/-; that

amount included some local debts added to his own.

The CHAIRMAN said that was so. Mr. Davis claimed 50,000/-, and the local debts

were 40,000/-.

A SHAREHOLDER: How can he expend 40,000/- in putting up machinery in the

mine?

It was explained that the 40,000/- comprised money which had been borrowed by

Mr. Patrick, to pay for different things, at an enormous rate of interest.

Mr. SANDS: I propose that the directors be instructed to adopt immediate steps

in America to take possession of the mine. If the directors and Mr. Davis agreed to

arbitration, it would be a waste of time to do so, as Mr. Davis would not act on the

decision of the arbitrator if it was unfavourable to himself.

Mr. WALKER: I have great pleasure in seconding that, and I think steps should

be taken again by Mr. Davis, in order to get the possession of the property into our

own hands.

Sir LEOPOLD HEATH said that perhaps those gentlemen who talked of negotiations

would initiate some financial scheme to supply the board with the funds necessary

for such negotiations.

Mr. WALKER: We must take some decided steps one way or another.

The CHAIRMAN said he thought it was impossible to attempt to raise 94,000/-

The only course to be pursued was to endeavour to get a receiver appointed at Utah;

that was the only lie open to the directors at present—he could see no other. They

could apply to the court in Utah, and he should think, get a receiver appointed, and

then they would be able to ascertain how the money was being expended, and

whether the charges against the company were just, and also whether the mine was

properly worked. He could not think that the law in America would allow Mr.

Davis to charge what he liked. Until this was done, it would be impossible to tell

whether the mine was large and remunerative.

Mr. WALKER: The money obtained from the old directors was £6000; is that

exhausted?

The CHAIRMAN: All gone, with the exception of £800.

Mr. WALKER: They are bound to subscribe another sum.

The CHAIRMAN: Yes, £19,000; if we can borrow the money to pay off Mr. Davis.

Mr. WALKER: Not otherwise?

The CHAIRMAN: Not otherwise; they are relieved from paying the 19,000/-, unless

we can get the money; and also relieved from any further proceedings being taken

against them. That was the arrangement made by the shareholders.

Mr. WALKER agreed with the suggestion that the first thing would be to appoint

a receiver on the other side.

A SHAREHOLDER: If Mr. Davis would take the liabilities of the company, and give

us equal to 24/- per share, I think he might have the mine. ("No, no," and

laughter.)

The CHAIRMAN: You seem to stand alone in respect to that, sir.

Sir LEOPOLD HEATH suggested that it would not be advisable to pass any resolution

with respect to legal proceedings. (Hear, hear.)

Mr. SANDS said he would withdraw his resolution, and leave the matter in the

hands of the directors.

Mr. Alfred Good was then appointed auditor.

On the motion of Mr. RIDDELL, a resolution was passed, fixing the future general

meetings of the company in April in each year.

A vote of thanks to the chairman closed the proceedings.

SOUTH TOLCARNE MINING COMPANY.

A general meeting of shareholders was held yesterday (Friday), at the offices, Austinfriars.—Mr. THOMAS in the chair.

Mr. HICKY (the secretary) read the notice convening the meeting, and the minutes of the last were confirmed.

The accounts showed a debit balance of 457. The report was read, as follows:

July 26.—The engine-shaft has been sunk to within 9 ft. of the 40, which we can

calculate on reaching within a fortnight, when we shall commence opening out

through the rock, and, judging from the samples of the which it has been recently

collected, are likely to find it profitable. For the present we have only a small

portion of the lode in the shaft, the remainder being to the north, as it would im-

pede the sinking to cut it out before we reach the 40. We have recently met with

some fissures in the killas rock to the south of the shaft, which are letting out consider-

able streams of water. This leads us to think that there may be a lode in this di-

rection near at hand, and on reaching the 40 we shall, therefore, cross-cut south as

6 fathoms long to get to Fraser's lode. Judging by the underlie of this lode at the

20, and the rock having become more favourable for speed with increased depth,

we may probably intersect the lode at the 40 within about two months. This is

a most important object, and likely to lead to very satisfactory results, as the lode

is of masterly character, and productive of rich yellow and grey copper ores

where open through at the 20, with an improving appearance in going down.

The 30 cross-cut has been driven 9½ fms. north from the engine-shaft towards

Fraser's lode, the progress in this operation having been slower than we had hoped,

owing to an increased hardness of the rock. We have, according to the underlie of

the lode at the 20, about 6 fms. more to drive to intersect it, which we cannot cal-

culate on doing in less than two months, although there is a probability that the

rock may become easier for driving through as we approach the lode.

We have a party of tributaries, as compared with our present depth, as the lode dips towards

the engine-shaft, which it will enter at about the 50, and there form a junction

with the main lode in the bottom of the adit level, and met with a bunch of the red oxide

of copper, which they have broken about 4 tons of excellent quality, producing

more than 20 per cent. of fine copper. We think from this, and the fine gossan we

have driven through at the adit level for a length of nearly 100 fms., that this lode

comes from no trial to the lode under the gossan referred to. The water

coming from this lode is very little, and the shaft could be quickly and cheaply

drained by means of light iron rods connected with the engine. We advise this

part of the tributaries to be raised copper ore of good quality by the employment

of diversions, and in all probability lead to our making further and more valuable

discoveries of copper as the lode is more fully developed. In concluding our report,

we beg to remark that our confidence in this mine remains as strong as it ever was, and that with the depth which we have now reached at the engine-shaft, and the distance driven towards Fraser's lode, the profitable results

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NORTH HENDRE.—John Lean, July 28: In the north level we are stowing away the western end of the rise; the ground is very favourable for progress, producing about 10 cwt. of ore per fathom, and we expect it to improve as we extend. The lode in No. 1 south level looks exceedingly strong and masterly, producing lead to the value of 2½ tons per fathom. In No. 2 south level we have a change of ground, and a little more lead mixed throughout the sandstone and clay. We shall be able to say more about it after a few feet further driving, but, judging from what we see, we expect a great improvement. No other change has taken place at any point. Since our late heavy rains a little water has made its appearance in the north and No. 1 south levels, and we are obliged to work the pumps for an hour or two in each shift, which rather impedes our progress, but we do our best under the circumstances.

NORTH POOL.—W. C. Vivian, F. Clymo, July 29: We have pleasure in reporting a continued improvement in the 40, where the lode is now about 4 ft. wide, and is yielding throughout rocks of blende containing yellow copper ore; there is no change greater than any we have been able to notice before, and there is every sign that still greater change and improvement are near at hand.

NORTH PRINCE PATRICK.—J. Jones, July 29: We are pushing on with the end in the 60 yard level, at the engine-shaft, and there is a continual slight improvement; the ground, however, has been soft, and consequently troublesome to drive. We are now getting into firmer ground, and are finding lead as we advance. This leads me to believe that when the ground hardens we shall be in much stronger lead ore ground than we have yet seen. The men driving in the level from the eastern shaft have been making good progress, and we are now about the point where we ought to intersect the Pwllgaseg lode, according to the opinion of the best miners in this locality.

NORTH TREGHERBY.—R. Pryor and Son, July 28: The tutwork bargains and tribute pitches continue just as when last reported on. We shall sell on Saturday next 2 tons of tin.

OLD TINCROFT CONSOLS.—J. Pope, July 28: In the 10 fm. level, west of Diamond shaft, the lode is worth for the 15, per fathom. In the 30 west the lode is worth 6½ per fathom. We have cleared and secured the engine-shaft about 9 fm., but our progress has been rather slow on account of its requiring a quantity of timber to secure the ground. The engine-house is being raised as fast as we could expect, and we hope the masons will accomplish the job in the specified time.

PATELEY BRIDGE.—C. Williams, July 28: New Discovery: The vein in the cross-cut north, in the 10, west from engine shaft, is 2 ft. 6 in. wide, yielding fair and profitable orestuff for dressing, and likely to improve. The vein in the rise over the back of this level has improved very considerably within the last day or two, being now over 4 ft. wide, and carrying a leader of rich lead ore on the footwall 6 in. thick, of nearly pure metal, worth 20½ per fathom—ground easy to work. The 20 cross-cut south-west, to cut Dickson's vein, is without any material change since my last advice. The forebreast is still very wet, which indicates our nearing an open and porous vein. The cross-cut east, also in the 20, to cut Fielding, Sir Thomas, and other veins, is without any change to remark.—Engine Sump: Very good progress has been made in sinking this sump up to Friday last, when the chimney leading from the engine abruptly failed, being choked up with soot. We have had it thoroughly cleared, and are glad to say the men resumed the sinking yesterday morning, and are working satisfactorily.—Pringap: We have now a whole forebreast before us in this level, and the part of the vein that we are carrying is a ft. wide, intersected with lead ore throughout, all saving work for dressing.—Sir Thomas Vein: We are getting fine lumps of solid metal in a string leading out from the above vein, and which will form a junction with the north vein a short distance from the present, and where we anticipate good results.—Blue Biggs: The vein in this level is from 4 to 5 ft. in width, consisting of lime-spar, sparite of lead, with occasionally stones of blue ore.—Giffith Level: We have the men at present employed in repairing footway to Jarrett and Sun veins, to enable us to examine that part of the mine drained by Eagle level.

PEDN-AN DREA UNITED.—William Tregea, John Pope, July 24: Sump: The lode in the 160 west end (Martin's) is still divided into branches, producing good stones of tin. In the 150 west winze the lode (Martin's) is worth 20½ per cubic fathom—about 9 ft. in breadth at present carried in the winze, and no south wall. In the 150 west and the lode (Martin's) is worth 16½ per fathom. In the 140 west end the lode (Martin's) is worth 10½ per fathom.—Cobbler's: In the 120 west end the lode (north) is worth 8½ per fathom. In the 80 west winze the lode (north) is worth 8½ per fathom. In the 80 west end the lode (north) is worth 18½ per fathom. In the 70 west end the lode (north) is worth 18½ per fathom. In the 60 west end the lode (north) is worth 15½ per fathom. In the 50 west end the lode (north) is worth 6½ per fathom.—Critchley's to 90: We are proceeding with the cutting down and timbering of this shaft as fast as possible, the new lode here being at present disordered by the cross-course and elvan. In the 47 west the lode produces rich stones of tin, but not being clear of the cross-course is at present in an un-settled state. We have not yet opened on the lode eastward. In the 140 fm. level cross-cut good progress is being made.

PENNERLEY.—W. T. Harris, J. Delbridge, July 27: Potters Pit: The ground in the 75 fm. level cross-cut is rather slow for progress, but we cannot be far from a change. The winze sinking below the 65 is worth 4 tons lead per fathom. The stopes in the roof is worth 1½ ton lead per fathom. The cross-cut driving south, at the 65, is more promising, and we think from appearance the lode will shortly be intersected. The 45, driving west, has slightly improved, and is now yielding ½ ton lead per fathom.—Engine-shaft: The lode in the 80, driving east, is yielding an increased quantity of lead, and we hope by next week to be able to give quantity. In the 80 cross-cut we have intersected a small branch, indicating a near approach to the lode; in fact, 3 ft. more driving we expect to cut it. The hole in the winze sinking below the 70 has much improved, now worth 3 tons lead per fathom. All other stopes and bargains throughout the mine are making use of progress, and yielding lead as for some time past.

PENSTRUTHAL.—J. Teague, July 27: The sinking of Highburrrow shaft is progressing very satisfactorily, and the lode continues to be worth fully 20½ per fathom, and of a most promising appearance, and will I have no doubt further improve, and that shortly. In the 46, driving east of shaft, the lode is worth 12½ per fathom, with a much better appearance than formerly, and ground easier for driving; set at 3½ fm. per fathom. In the 46, driving west of shaft, the lode is worth for 10½ fm. per fathom. In the 34, driving east of shaft, the lode is worth for 10½ fm. per fathom. In the 34, driving west of shaft, the lode is worth for 10½ fm. per fathom. In the winze sinking under the 34, west of the shaft, the lode is worth for 8½ fm. per fathom. In the winze sinking under the 34, east of shaft, the lode is worth for 15½ per fathom. We hope to connect these winzes to the 46 in about a month from this time, after which we shall increase our returns of tin. In the 22, driving west of footway shaft, the lode is worth for tin about 5½ fm. per fathom. In the 19, driving west of footway shaft, the lode is yielding saving work for tin. Nothing has been met with in the drivage north and south of the middle and western shafts since my last; we shall continue the driving for another month. The copper tribute pitches are without alteration, and yielding the usual quantity of copper ore. The tin market continues very depressed, but must hope for an improvement, when we should do very much better.

PERSEVERANCE.—W. Rich. W. Hambly, July 27: The new plunger-lift is set to work, and the mine drained to the bottom. We shall now start the 70 cross-cut north towards Wheal U. Lode, as well as urge on the 70 east, on Davis's copper lode. We have set to sink Clijah shaft below the 30, at 6½ fm. per fathom.

PLYNLIMMON.—J. Garland, July 29: According to your instructions, I have removed the men from the adit cross cut to rise over the 12, on the new lode, which continues to maintain its value—from 7 fm. to 10 fm. of lead ore per fathom.

Progress in sinking new shaft is not so good as I wish, as we are at present short-handed, two men having left, and I find it very difficult to replace them just now, as every person about here is very busy with the hay harvest. However, if not before, I shall be able to replace them next setting day, the 6th prox. All other operations throughout the mine are progressing as usual. I will send you a detailed report for the directors' meeting on Wednesday next, which shall be followed by weekly ones.

PRINCE OF WALES.—J. Gifford, J. Pryor, July 27: In the 77 east the ground is still favourable for progress; the lode is 1½ ft. wide, and letting out water freely, which we think is near the cross-course. The tribute pitches throughout the mine are without alteration.

PRINCE OF WALES.—J. Gifford, J. Pryor, July 29: No change in any part of the mine. We hope to sample on the 30th about 85 tons of the usual quality copper ore.

RHELDOL.—John Ridge, July 24: The 30 cross-cut is extended 8 ft., and has every appearance of being near the south part of lode; the fissures of the rock are wide, and are dipping south towards the lode. In the 20 east the lode continues wide, the part carried contains a nice bunch of ore.

ROMAN GRAVELS.—A. Waters, July 29: The 95 cross-cut, north of the shaft, is widening out again, and the lode looks more like lead-bearing; the present value of the end is 3 tons per fathom. The stopes in back of this level are looking very well indeed. The 95 south is worth 4 tons per fathom. The 80, south of Corfield's, is improved, and is now worth 80½ per fathom. The winze below the middle level, coming down on the said 80 end, is in a ledge 4 ft. wide, nearly all solid lead. The 65, south of Stoke's, is gradually improving as we get away from the junction of the Sawpit vein. The stopes of and about Stokes's are yielding lead in 300 fm. for 2970, and 30 tons of blende for 99½.

SNOW BROOK.—T. Owen, July 29: I am pleased to say the ore continues in the 12 the much the same as last week, yielding 1½ ton per cubic fathom. We have not yet cut through the ore into the north side of the lode.

SOUTH CARN BREA.—W. Rich. J. Knotwell, June 27: The lode in the 164 end west carries good stones of ore. The rise in the back of this level is worth 5½ fm. per fathom. The winze sinking below the 164 yields abundance of lime-spar, with strong yellow copper ore intermixed. The lode in the engine shaft sinking below the 164 is worth 10½ fm. per fathom. The 164 end east is looking promising to improve. There is an increase of water in the cross-cut driving north below the 150, but no lode of importance yet met with. The lode in the stopes west of the winze is improving, now worth 15½ per fathom per ton.

SOUTH DARREN.—John Boundy, W. H. Boundy, July 26: Setting Report: The 90, to drive west, by six men, at 11½ fm. per fathom; the lode in the end is 2½ fm. wide, of a very promising character, composed of a dark clay-slate, carbonate of lime, copper and lead ore, worth 40½ per fathom. To stop the back over the 90 west, from the shaft, by four men, at 90½ fm. per fathom; the lode is 3 ft. wide, worth 10½ fm. per fathom. To stop the back over the 90 west, from the winze, by four men, at 90½ fm. per fathom; the lode is 3 ft. wide, worth for lead and copper ore 11½ fm. per fathom. The lode in the 80 end west is still small, containing a little copper and lead ore; here we purpose putting the men to drive a cross-cut south to see if any more lode is standing in that direction. To stop the back over the 80 west, from the shaft, by four men, at 85 fm. per fathom; the lode is 2½ fm. wide, worth for lead and copper ore 11½ fm. per fathom. To stop the back over the 80 west, from the winze, by four men, at 85 fm. per fathom; the lode is 3 ft. wide, worth for lead and copper ore 12½ fm. per fathom. The 70, to drive west, by six men, at 12½ fm. per fathom; the lode at this point is 3 ft. wide, and further improved, worth for lead and copper 35½ fm. per fathom, and presenting a most kindly appearance for improvement as we advance. To stop the back over the 70 east, from the winze, by four men, at 85 fm. per fathom; the lode is 3 ft. wide, worth for lead and copper ore 13½ fm. per fathom. To stop the back over the 70 west, from the winze, by two men, at 75 fm. per fathom; the lode is 2 ft. wide, worth for lead and copper ore 10½ fm. per fathom. To stop the back over the 70 west, by two men, at 75 fm. per fathom; the lode is 2 ft. wide, worth for lead and copper ore 10½ fm. per fathom. The dressing and surface work go on regularly.

SOUTH GREAT WORK.—S. J. Reed, July 28: We are driving by the side of the lode in the 45 west, and when last taken down was worth 13½ per fathom. We have cut through a hard capel course in the back of the 35 west, and find the lode of this level at 6s. 8d. to 10s. in 1½. In the 35 east the lode is 4½ ft. wide, worth 11½.

per fathom. The usual number of pitches have been taken, at tributes varying 6s. 8d. to 13s. 4d. in 1½.

SOUTH ROMAN GRAVELS.—John W. Powning, July 28: Although every effort is being put forth by the men to put down the engine-shaft, I am sorry to say our progress during the last eight or ten days has been slow; this is owing in great measure to the hindrance caused by the large feed of water in the mine, the result of the late heavy rains. The shaft is sunk 3½ fms below the 30.

ST. AGNES CONSOLES.—W. Vivian, July 29: In the 72 fm. level, driving west of south cross-cut, the lode is improving, and is now producing some rich tinstone. The lode in the rise in the back of the 72 is worth 8½ per fathom for tin.

ST. PATRICK.—W. Francis, July 27: The 90 yards cross-cut north goes on well in the black limestone, at 3½ fm. per fathom. The horse-of-ground tears better, and the joints on each side are composed of fine compounds of gossan and clay. We have a fair chance of cutting into a pipe or run of lead ore every day, as such do not generally make into the white limestone, and if found above may not, consequently, be seen in the bottom cross-cut.

TANKERVILLE.—Arthur Waters, July 29: The lode in Watson's shaft, now 5 fms. below the 152, is increasing in width as we go down, and it would seem that we are just on the top of another great and rich run of ore here. The ore stuff from the bottom of the shaft is equal to any seen in the mine. The lode in the 152 west is looking very well, one rib of it being 15 ins. wide, nearly solid ore. The lode now stripped in the stopes in the back of said level is 15 ft. wide, a good course of ore for the whole width, and we are not yet through to the footwall. The lode along the bottom of the 152 is as wide and rich as we have ever seen it to be elsewhere, and the chances of finding a very rich run of lead in the 162 are to my mind quite certain. Other points as for some time past. I have never seen the mine in so good a position as it is to-day.

TREVARACK.—J. Pope, July 25: The engine-shaft is 11 fms. 1 ft. 6 in. below the 74; the lode 2 ft. wide, composed of peach, carnel, and mundic, with occasional stones of tin. We have now commenced putting in solar, to commence driving at the 85, where the lode has the same size and appearance. The 74 west is driven about 16 fms.; the lode 3 ft. wide, with 9 in. on the north part producing a little tin. The 74 is driven east 18 fms.; the lode 1 ft. wide, at present unproductive.

TYLLWYD.—J. Pauli, July 29: Good progress is being made in sinking the engine-shaft. The 20 is improving daily. I will bring specimens of ore with me to general meeting on Wednesday next; lode about 1 ft. 6 in. wide, with a leader of one nearly 2 in. wide. No material alteration in the stopes since my report for annual meeting. We shall sample 20 tons of ore on Monday next.

VAN CONSOLS.—J. Roach, July 30: We have commenced driving cross-cut at the 40 fm. level under deep adit in the lode; therefore I shall be able to give you good particulars of that part driven through in my next report. Rise above the 15, against Murray's shaft, is communicated with that above deep adit. In the rise above deep adit the usual progress is being made. All other work satisfactory.

VERON.—S. Harper, July 24: There is no alteration to remark in the lode, and character of the ground in the engine-shaft sinking below the 100 yard level; the continuous rain has greatly increased our water for the engine, most of which is issuing from the lode in the 93 yard level, about 8 or 10 yards behind the present end, and we have had to make a temporary draw to prevent the water going down the shaft. The lode in the 100 yard level is still gradually improving, with a little more lead, and getting very wet; the rock is also becoming more favourable for progress. At the 80 yard level west, although the ground is still hard, there is a favourable change taking place. In the rise in the roof of this level we have now covered a small old level driven from No. 2 winze west, and filled up with stuff; this was unknown to me or to the men working here. Fortunately this level was opened on the north part of the lode, leaving the south part standing, which contains very good lead stuff; after having cleared out this level I shall recommend driving it as an intermediate level; the lode is about 18 in. wide, and produces fine lumps of lead ore; ground favourable. On surface we have finished fixing the end of stands and launders from the shaft to the engine pool, and shall commence pumping the water in the evening; it may require a little puddling. All other matters going on as usual.

WEST GODOLPHIN.—J. Pope, July 27: Setting Report: The 60 east is driving by six men, at 4½ fm. per fathom; distance driven, 5 fms.; value of lode, 20½ fm. width of lode, 4 ft. The 60 south is driving by two men, at 5 fm. per fathom; distance driven, 25 fms. 1 ft. 3 in.; value of lode, 4½; width of lode, 2 ft. The 50 east is driving by six men, at 5 fm. 10 in.; width of lode, 1 ft. 6 in.; value of lode, 10½; width of lode, 1 ft.; width of lode, 1 ft. 6 in. The 50 winze east is sinking by six men, at 4½ fm. per fathom; distance driven, 1 fm. 3 ft. 8 in.; value of lode, 40½; width of lode, 4 ft. The 40 west is driving by two men, at 3½ fm. per fathom; distance driven, 2 fms. 4 in.; width of lode, 2 ft. The 40 east is driving by six men, at 4 fm. per fathom; distance driven, 18 fms. 1 ft. 1 in.; value of lode, 10½; width of lode, 3 ft. The 40 winze east is worth 8 fm. 5 in. 3 in.; value of lode, 8½. The 40 north east is driving 4 fm. 6 in.; value of lode, 8½. The 40 north is driving by two men, at 5 fm. per fathom; distance driven, 80 fms.; small lode. The 30 winze east is sinking by six men, at 4 fm. per fathom; distance driven, 2 fms. 3 ft. 6 in.; value of lode, 8½. The 30 east is driving 15 fms. 4 ft. 1 in.; lode divided. Wilson's shaft is sunk 13 fms. 3 ft. 9 in.; no change—tribute: The 60 south, caunter lode, to four men, at 7 fm. in 1½; ditto, to four men, at 6s. 8d. in 1½; the 50 south, to three men, at 7 fm. in 1½; ditto to two men, at 6s. 8d. in 1½; the 50 east, Pink lode, to four men, at 10s. in 1½; the 40, north caunter, to two men, at 8s. in 1½; the 70 ditto, to two men, at 10s. in 1½; the 30 ditto, to two men, at 10s. in 1½; ditto south, to one man, at 10s. in 1½; and the adit to four men, at 10s. in 1½.

WEST GREAT WORK.—S. J. Reed, July 27: No. 2 lode, in the 20, west of Duke's shaft, yields rich lumps of tin, but it is not yet clear of the elvan course, and the ground has been a little hard; the lode, however, will further improve in value as we get away from it, judging from the indications in the drivage. In the 10 west the lode is worth 6½ per fathom, and has a favourable appearance of beginning more productive.

WEST MARIA AND FORTESCUE CONSOLS.—Wm. Skewis, July 29: In the 100 fms. level, West Chiverton shaft, the shaftmen have completed the fixing of double skip road from the 40 to the 104. The lode in the eastern end of the 104 is 4½ ft. wide—a strong capel lode, producing a little copper ore and mundic, but not to value. There has been no lode taken down in the 93 east since last report.

In the stopes in bottom of this level west the lode is 3½ ft. wide, and worth from 10½ to 20½ per fathom. Nos. 1 and 2 stopes in back of this level are worth on an average 25½ per fathom. By the end of this week we hope to finish putting in the new kilns.

WEST MILLWR.—W. Francis, July 28: The cross-cut south from West Meadow shaft, after passing through the Aberdove measures, and a line of shale lying upon them, has entered into the white bearing carboniferous limestone, with most congenial appearances, and I am encouraged to look forward with confidence in expectation of good results on cutting the next east and west vein, about 5 fms.

WEST TANKERVILLE.—A. Waters, July 29: The various points in this mine from the 63 to the 46 are yielding ore in fair quantities, and the prospects, on the whole, have considerably improved lately. My full report for the meeting will be posted this week. We have to day sold 20 tons of lead ore for 29½ fm., and 20 tons of blend for 37½ fm.

WEST WHEAL GORLAND.—J. Mayne, July 29: Good progress has been made in sinking in the large bottoms under the 42, in a lode at present about 3 ft. wide, 1 ft. of which is the leader of copper ore, and showing indications that it will soon

certain persons, supposed to be well informed, had been led to indulge in relative to the brilliant future of the mine. The two gentlemen whose election to the board had to be confirmed by the meeting, were Mr. Stratton and Mr. Riddell—the former gentleman retired, and the latter's election was not confirmed. Sir Leopold Heath was re-elected on the board, which now consists of that gentleman and Mr. Tweed, and the filling up of the numbers of the board is left to those two gentlemen. The details of the report appear in another column.

In Foreign Gold Quartz Mines there is no feature. Del Rey stock is steady, at \$95 to \$105; the produce for the first division of July, is 10,750 oits.; value, \$4917.; yield, 10 $\frac{1}{2}$ oits. per ton. Don Pedro, 4 dis. to par; the produce for June is 5800 oits.; loss on the month, 100%. The produce cleaned up for the first division of July is 900 oits. Chontales, $\frac{1}{2}$ to $\frac{1}{2}$; Javali, $\frac{1}{2}$ to $\frac{1}{2}$; Frontino and Bolivia, is 900 oits. Port Phillip, $\frac{1}{2}$ to $\frac{1}{2}$; for the month ending July the average yield per ton was 5 dwts. 10 grs. The western reef yielded 5 dwts. 7 grs., and the eastern reef 10 dwts. 19 grs. per ton. Almada and Trito, $\frac{1}{2}$ to $\frac{1}{2}$; Sierra Buttes, $\frac{1}{2}$ to $\frac{1}{2}$; ditto Plumas Eureka, and London and California, $\frac{1}{2}$ to $\frac{1}{2}$; Independence, $\frac{1}{2}$ to $\frac{1}{2}$.

The shares in the Hydraulic, or Gold-washing Companies, on the Stock Exchange, have not exhibited much alteration, with the exception of Sweetland Creek, which have been in request at better prices. Blue Tent shares remain at about last week's quotations, Cedar Creek shares do not exhibit any change. It is expected that the water season will practically close at the end of July, thus being shorter by about two months than was the case last year. Blue Tent, $\frac{1}{2}$ to $\frac{1}{2}$; very good progress is being made with the ditch. There are over 500 men employed on the works. To the end of June over four miles of the ditch had been completed, as well as a very fair proportion of the flumes. Washing will proceed on the mines until about the end of this month. Birdseye Creek, $\frac{1}{2}$ to $\frac{1}{2}$; Mr. Powers reports that he will be able to run until Aug. 1, and anticipates good results, as the best portion of the gravel broken by the last blast of powder remains to wash in the current run. Sweetland Creek, $\frac{1}{2}$ to $\frac{1}{2}$; the last advices have been anticipated by the telegram published last week. Mr. McLean reports that he was engaged blasting in readiness for the next run. Cedar Creek, $\frac{1}{2}$ to $\frac{1}{2}$; the work now in course of progress consists of washing on the Yankee claim and running on the Yankee Tunnel. These would be continued as long as the water lasted, and Colonel Tozer was doing all he could to lengthen the supply.

Lead Mines have been represented by Van, which have changed hands at 2 $\frac{1}{2}$ to 25; the usual monthly report appears in another column. The mine is looking exceedingly well, and is opening out satisfactorily in the bottom level. The sale on Thursday, 500 tons of lead and 150 tons of blonde, realised 79367. 5s. Pately Bridge, 6 $\frac{1}{2}$ to 7 $\frac{1}{2}$; a considerable improvement has taken place in the "new discovery," both east and west, and in the rise in the back of the same the lode is 4 feet wide, and worth 20% per fathom, in easy ground. Good progress is being made towards intersecting the lodes in the 20 fm. level cross-cut, south and north; it is expected both will be cut in the course of a week or ten days. Good progress is also being made in sinking the engine-shaft, and in the main, or horse, level the lode is 4 ft. wide, opening up whole and profitable ground. Altogether, the prospects of the mine have during the week considerably improved. Ashton, 1 $\frac{1}{2}$ to 1 $\frac{1}{2}$; important improvements have taken place, and the indications are such as to induce the expectation further discoveries will shortly be made. Van Consols, 2 to 2 $\frac{1}{2}$; shares scarce for delivery. Glyn, 1 $\frac{1}{2}$ to 2; the Van lode which traverses this mine has been met with at 13 fms. from surface, and good lead found. A winze will be forthcoming, and the manager is sanguine of meeting with a rich course of lead ore. Great West Van, 10s. to 15s.; the works are being carried on with vigour.

Bog, $\frac{1}{2}$ to $\frac{1}{2}$; the adjourned general meeting was held on Wednesday. The Chairman said that this was the annual meeting of the company, and stood adjourned till to-day from the 23rd ultimo. Since that date he was pleased to say that the mine had considerably improved. The report from the agent (received this morning) was in every way more encouraging. The bottom level was just entering the run of ore ground passed through for 20 fms. in length in the level above, while the works in progress in the shallower level above Bunting's shaft were also laying open profitable ground. The new drawing-engine was nearly ready for starting, and when at work would much facilitate operations by enabling the stuff to be drawn to surface more rapidly. The directors had also just ordered a new lift of pumps for the purpose of being in readiness to commence the sinking of the engine-shaft, and this work would be proceeded with as little delay as possible. Altogether, he was more than ever satisfied that in the course of twelve months the position of the company would be vastly better. He would, however, urge on the shareholders the advisability of taking up a few more of the preference shares, so as to enable the board to more energetically push on the works.

Pennerley, 1 $\frac{1}{2}$ to 1 $\frac{1}{2}$; the winze sinking below the 65 at Potter's Pit, is worth 4 tons per ftn. The lode in the 80, east of engine-shaft, is improving, as is also the lode in the winze sinking below the 70, which is now worth 3 tons per fathom. Other parts of the mine much the same as last reported.

Cathedral, 25s. to 33s.; the various points in operation, valued at 100s. per fathom, are opening up most satisfactory.

Subjoined are the closing quotations:— Ashton, 1 $\frac{1}{2}$ to 1 $\frac{1}{2}$; Bog, 8s. to 10s.; Devon Great Consols, 2 $\frac{1}{2}$ to 3; Dolcoath, 4s. to 4 $\frac{1}{2}$; East Van, 1 $\frac{1}{2}$ to 1 $\frac{1}{2}$; East Caradon, 1 $\frac{1}{2}$ to 1 $\frac{1}{2}$; East Lovell, 7 to 8; Great Laxey, 11 to 14%; Hindington Down, 1 to 1 $\frac{1}{2}$; Marke Valley, 1 $\frac{1}{2}$ to 17%; Pately Bridge, 6 $\frac{1}{2}$ to 7 $\frac{1}{2}$; Pennerley, 1 $\frac{1}{2}$ to 1 $\frac{1}{2}$; Parys Mountain, 10s. to 12s. 6d.; Pentrefirth, 7s. 6d. to 10s.; Roman Gravels, 11 $\frac{1}{2}$ to 12%; Tincroft, 18 to 19; Tankerville, 10 to 11 $\frac{1}{2}$; Van, 24 to 25; Van Consols, 1 $\frac{1}{2}$ to 2 $\frac{1}{2}$; West Chiverton, 15 to 18%; Cape Copper, 33 $\frac{1}{2}$ to 34 $\frac{1}{2}$; Cedar Creek, 3 $\frac{1}{2}$ to 3 $\frac{1}{2}$; Chontales, 1 $\frac{1}{2}$ to 3 $\frac{1}{2}$; Birdseye Creek, 1 $\frac{1}{2}$ to 3 $\frac{1}{2}$; Colorado Terrible, 3; Don Pedro, 12s. 6d. to 15s.; Eberhardt and Aurora, 8s. to 8 $\frac{1}{2}$ s.; Emma, 1 $\frac{1}{2}$ to 1 $\frac{1}{2}$; Flagstaff, 1 $\frac{1}{2}$ to 1 $\frac{1}{2}$; Frontino and Bolivia, 3 $\frac{1}{2}$ to 4; Independence, 2 $\frac{1}{2}$ to 3; Javali, 8s. to 10s.; Last Chance, 1 to 1 $\frac{1}{2}$; Malpaso, 3 $\frac{1}{2}$ to 4 $\frac{1}{2}$; Mular, 1 $\frac{1}{2}$ to 3 $\frac{1}{2}$; New Quebrada, 4 to 4 $\frac{1}{2}$; Rica, 3 $\frac{1}{2}$ to 4 $\frac{1}{2}$; Richmond Consolidated, 12 $\frac{1}{2}$ to 12 $\frac{1}{2}$; St. John del Rey, 400 to 410; Sweetland Creek, 2 $\frac{1}{2}$ to 3 $\frac{1}{2}$; San Pedro, 1 $\frac{1}{2}$ to 1 $\frac{1}{2}$; South Aurora, 3 $\frac{1}{2}$ to 4 $\frac{1}{2}$; Tecoma, 3 $\frac{1}{2}$ to 4 $\frac{1}{2}$; United Mexican, 2 $\frac{1}{2}$ to 3 $\frac{1}{2}$; Ladywell, 2 $\frac{1}{2}$ to 3 $\frac{1}{2}$; Blue Tent, 4 $\frac{1}{2}$ to 5 $\frac{1}{2}$.

NEW CHIVERTON.—The shaft is being rapidly sunk, and is down 7 ft. below the 35, producing good lead work. The 35 north is worth 5% per fathom, the 35 south 6%, the 25 north 5%; four pitches in the 35 north respectively worth 12%, 10%, 9%, and 8%; one pitch in the 35 south 8%, and four pitches in the 15 averaging 7% per fathom. 22 tons of ore have been sold this week.

LAWYERS AS AUDITORS OF MINING COMPANIES.

TO THE EDITOR OF THE MINING JOURNAL.

Sir,—I am a shareholder in a mining company where we are affiliated with two antagonistic auditors, the one a professional accountant, the other a lawyer, and at the general meeting recently held I was impressed with the utter absurdity of placing a "limb of the law" in such a capacity. It may be easily understood that such a person is unlikely to have a sufficient acquaintance with mining accounts to qualify him for the post, and that even if he understands them at all his knowledge must necessarily be very superficial. In the case of which I write I can safely say that the best part of an hour of the valuable time of the shareholders (many of them City men conversant with mining accounts) was wasted in listening to the verbosity of this would-be accountant, who seemed to take especial delight in inflicting on us his crotchety and absurd theories as to what a balance-sheet ought to be. I think my brother shareholders will agree that our time would have been much more profitably employed in eliciting information from the local manager (who, of course, has the spending of our money and the earning of our dividends) than in listening to such "gassy" emanations from an amateur auditor. My impression of him was that he is one of those "wind-bags" who delight in hearing themselves talk, and are ambitious to see their speeches figure in the published reports of the meetings.

I, for one, am perfectly confident that for a small company like ours one auditor is amply sufficient, and, as it would save a considerable annual expense, I shall at the next meeting propose that our legal friend be not re-elected. His bombastic orations are really

painful to listen to, and balance-sheets constructed upon the system he advocates partake more of the character of "briefs" than of mining accounts.

A CITY MAN.

WEST CHIVERTON MINE.

Sir,—I cannot permit the letter in the Journal of last Saturday, signed by Henry Mansell, to pass unnoticed, although he is not a shareholder in the mine, nor has he been for the last five years. He was until the last two or three weeks constantly—I may say urgently—desiring me to give him information, and on some five or six occasions took the trouble to come to my office seeking information, and wishing, on one of those visits, to purchase of me some shares. Not being at all anxious to have an account with Mr. Henry Mansell, I did not sell any. He afterwards informed me that he had purchased some shares for a client, and I find, has since sold them at, I believe, a considerable profit for his client, and no doubt with some advantage to himself. At the time of the recent considerable rise I am aware that a gentleman (a member of the Stock Exchange), whose name I am at liberty to mention, but shall not unless Mr. Henry Mansell demands it and I venture to think he will not, under the circumstances, sold him some shares at, I am told, over 24 $\frac{1}{2}$ each. "The same day I purchased shares at 24 $\frac{1}{2}$, 10s." from which price they receded before the settling day came round; and I am informed Mr. Henry Mansell has not, in consequence of this fall, been able to take up the shares, his client being unable or unwilling to pay for a part of Mr. H. M.'s purchase. It appears Mr. Henry Mansell exceeded his client's instructions, who, it is very evident, bought only on speculation for a rise, and it would appear that Mr. H. M. did the same. They had no intention of taking up the shares and paying for them. It is such transactions as these that enable "bears" to gain their own ends.

Mr. Henry Mansell's reference to the lode is, to say the least, misleading, I will not say intentional on his part. Perhaps he recollects only part of what I told him, and forgets that there are some 40 fms. to drive on the course of the lode at the 150 before reaching the rich ore zone down in the bottom of the 140, and which is standing up back from the 130 to the 140, and there is every reason to believe it will be found equally rich at the 150. I assert that I never told Mr. H. Mansell the lode was worth 55% at the 140, but that it was worth 35% per fathom, and this not over where it was cut at the 150. With regard to my selling shares I have nothing to disguise. I have both bought and sold according as I have received instructions from my clients. My transactions have been such as will bear the strictest investigation. I am, unfortunately, quite willing to allow but I court a strict examination of my accounts, "not by Mr. Henry Mansell, who I charge with spite, for some reason or other best known to himself," but by the committee of management.

Gresham Buildings, Basing-street, July 22.

GRANVILLE SHARP.

THE VAN MINES—MONTHLY REPORT.

July 25.—As under I beg to hand you my monthly report. The 90, east of shaft, is worth 35% per cubic fathom for lead ore. The same level, west of shaft, has been driven 11 fms.: the lode at this point appears to be very wide, and intermixed throughout with lead and blonde. The gas and water issue very strongly from this end. A winze in the back of this level sinking below the 75, at a point 10 fms. west of shaft, on the south part of the lode, is worth 75% per cubic fathom for lead ore, and is now down 9 $\frac{1}{2}$ fms. The 75, east of shaft, is communicated to the winze sunk at the present end of the 60, and the men have resumed the driving of the 38 cross-cut behind the end to prove the width and value of the lode. The 75, west of shaft, is worth 80% per cubic fathom for lead ore. The stripping of the lode to full width in the side of this level at points 30 and 40 fms. west of shaft, are worth 22% and 35%, respectively per cubic fathom for lead ore. The 60 is now 120 fms. west of shaft, and is still driving in the soft by the side of the lode. The lode in the present end of the 60, west upon the main leader, is worth 85% per cubic fathom for lead ore. The stripping of the lode to full width at the four points west of shaft—60, 72, 80, and 90—is worth on an average 36% per cubic fathom for lead ore; where opened to full width the lode is 4 fms. wide. The ten steps in the back of this level, east and west of shaft, are worth on an average 23%, 10s. per cubic fathom. The 45 is extended west of shaft 180 fms.; 20 fms. more driving will put us under Edwards' shaft; we are having nice spots of ore at this end at times. The 13 steps in back of this level, east and west of shaft, are worth on the average 28% per cubic fathom; mean width 17 ft. 6 in. The steps in back of the 30, east of shaft, is worth 18% per cubic fathom. The steps in back of the 15, east of shaft, has been worked through to the adit level, and the men are now continuing the steps in the back of that level; worth 80% per cubic fathom. The permanent levels are pushed on as usual.—Surface: The machinery is in good order, and everything working satisfactorily. Our monthly sale-to-morrow comprises 500 tons of lead and 150 tons of blonde.—W.M. WILLIAMS.

MINES ROYAL (DRISGOL)—SPECIAL REPORTS.

July 24.—I visited the above mines yesterday, in company with Captains Paul and Davis. The shaft is sunk 11 fms. from the surface, at which point the water appears to have burst into the mine, the men, therefore, came up again to 8 fms. deep, at which point the water went away, there a cross-cut has been driven north about 2 $\frac{1}{2}$ fms. all in lode, and no wall on either side to be seen; the lode is composed of beautiful coloured ochre, manganese, and red hematite, which, if assayed, would, I think, produce a higher percentage than when last tried, the stone being heavier. The men are at present stopped by the heavy floods. The shaft commenced in is a good position for future work, but I would strongly recommend a deep adit to be brought up—what you have already seen fully warranting such an outlay, and you would then speedily gain a good back, and it is my opinion that you will get under the manganese, ochre, &c., into rich mineral deposits, as I consider this great back of lode to be the right indication for mineral below. The lode in the bottom of the shaft was mixed with the richest clay slate I ever saw.—FREDERICK WILLIAMS.

July 24.—I visited the Mines Royal yesterday. As you have so much water in your new trial shaft, and as the workings there have proved so satisfactory, I would strongly recommend you to commence a deep adit, by which you will uncover the mine, gain a good back, and I fully believe out into a rich deposit of mineral, the back of the lode being one of the largest and most extraordinary I have yet seen. Your adjoining ground, at Llecheddwmawr, also well deserves a trial.—ADEL PAUL.

July 24.—I have been up to Drisgol with Capt. Paul and Mr. Williams. The men cannot drive the cross-cut at the shaft in consequence of the water. They have been trying to work this week, but could not do anything; they have driven the cross-cut north for about 2 fms. 3 ft.; it is full of manganese, and they are not through the lode yet. What I advise to be done is to start an adit near Drisgol House. You would have a good back, the mine would be always dry, and no machinery required for pumping, when I feel sure these mines will be a very valuable and lasting property.—JOHN DAVIS.

The Bilson and Crump Meadow Collieries Company (Limited) have declared an interim dividend on account of the current year at the rate of 10 per cent. per annum.

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NOTICES TO CORRESPONDENTS.

Much inconvenience having arisen in consequence of several of the Numbers during the past year being out of print, we recommend that the Journal should be filed on receipt; it then forms an accumulating useful work of reference.

REGULAR MINING REPORTS.—Some of the boards of management appear to overlook availings themselves of the benefit of the Journal as to this most desirable usage. The uncertainty that surrounds a shareholder's position when these are withheld is great, and is apt to create a suspicion that all is not as it should be. Perhaps this appeal may have its effect. I instance Great Rake Lead Mine, Eclipse Gold and Silver Mine, Manx Lead Mine, Spon Lane Colliery, Bantry Bay Barytes Mine, and Trewavas Copper Mine.—INVESTOR.

SIR.—Does any subscriber know how the Mangold Head liquidation proceeds? One may be disposed to think it is a pity the liquidator cannot re-start the thing on a firmer basis than previously, and utilise the small proprietary as a nucleus to gather additional capital. The late management was, doubtless, very bad and wilful.—SHAREHOLDER.

STOPPING BOILER TUBES.—I read with much interest your description of the boiler tube stopper invented by Mr. W. Boaz, published in last week's Journal, and am sure that all practical men will appreciate its value. The fracture of a tube is by no means an unusual occurrence, and if the mischief can be remedied with an apparatus costing but a few shillings I think that it should be brought largely into use. There is one matter, however, of which I can see no mention. I should like to know whether when the apparatus has been taken out of the tube it can be used again at another time. It seems, too, that the appliance can only be used when the leakage is very slight, for only very partially stops the tube whilst adjusting the apparatus, and during this time the escape of steam round the shield would be almost more inconvenient than in ordinary plugging. However, the invention is decidedly ingenious, and I shall certainly be inclined to recommend its use wherever tubular boilers are used.—F. F.

SOUTH CONDURROW.—You report me to have said at the last Condurrow meeting that the number of men at present on tutwork was 107. The number I specified was 107.—H. J. MARSHALL.

TITRIMETRICAL.—"A. H." (Redruth).—This is the method called in this country volumetric analysis. It is quite easy to make the assay in such a manner as to obtain the results in percentages; but that course is not usually followed, as the results are more quickly obtained otherwise, and the conversion can be almost instantaneously made by calculation. The best, indeed almost the only, book on the subject (for Bolley and Paul's is not obtainable) is that of Mr. Sutton, of Norwich. It is published by Messrs. Churchill, and is rather expensive; there was a new edition a few years since.

INDICATOR DIAGRAMS.—Can any correspondent explain the method of judging of the value of an engine by the inspection of the indicator diagrams? When about to purchase an engine a few days since I was shown some diagrams to prove what a vast improvement certain alterations of detail had made in an engine. Those shown to me as "very bad" diagrams and as "beautiful" diagrams appeared to me so nearly similar that I should really like to know in what the beauty consists. What short treatise is there which will explain this matter? For my own part, the diagram proves no more the utility of an engine than a piece of music shown to a non-professional would prove the beauty of the melody recorded.—C.

DUTCH TILES.—I am desirous of ascertaining the addresses of one or two large makers of Dutch tiles, and wish to know whether they could be obtained (say) 9 in. square—plain white and plain red or plain green. What would be the price per square yard, equal quantities of each colour? Also, what is the price of terra cotta tiles, and where in the South of England are they manufactured? They would have to be delivered at Brighton, or, if by ship, at Shoreham. Is the allowance for breakage the same as for slates? If not they must be delivered free and undamaged in purchasers' carts.—H. K. C.

Received.—"W. P. J." (Turin).—"J. W." (Mold).—"Amicus" (Glasgow).—"Shareholder" (West Chiverton). We could not insert such a letter; it is not at all adapted for publication.—"M. B."—"W. A. R."—"State"—"Shareholder" (South Condurrow).—"O. J. R."—"W. B."—"H. M. T."—"One who has Not Sold" (Richmond).—"Shareholder" (Bedford United).—"Amicus"—"N. E. W."—"M."—"J. R. C."—"E. Skeves.

IMPORTANT NOTICE—REDUCTION OF POSTAGE ON THE "MINING JOURNAL."—In consequence of the new POSTAL CONVENTION, which came into operation on July 1, the postage of the Mining Journal to many countries will be reduced to one-fourth. Henceforth the subscription will be 11. 10s. 4d. per annum (39 frs.), postage included, for the following countries. The amount will, if desired, be collected at the subscriber's residence at the end of each year. The subscription continues until countermanded:—Austria, France, Belgium, Denmark (including Iceland and the Faroe Islands), Egypt, Germany, Gibraltar, Greece, Heligoland, Italy, Luxembourg, Netherlands, Norway, Portugal (including Madeira and the Azores), Roumania, Russia, Servia, Sweden, Switzerland, United States, Malta, Turkey, Morocco, Tunis, and the Canary Islands. Spain 11. 10s. (50 frs.).

AVIS IMPORTANT—AUX ABONNES ETTRANGERS DU "MINING JOURNAL."—A cause de la nouvelle CONVENTION POSTALE Il y aura, à partir du 1^{er} Juillet courant, une grande diminution du prix de l'abonnement du Mining Journal pour bien des pays dont le taux des postes sera de 39 frs., le port compris, pour l'Autriche, Belgique, France, Danemark et ses dépendances, l'Egypte, l'Allemagne, la Grèce, l'Italie, Hollande, Portugal et ses dépendances, Roumanie, Russie, Servie, Suède, la Suisse, la Turquie, l'Afrique septentrionale, etc. Le montant, si l'on le veut, sera touché à domicile, la fin de l'an. L'abonnement continuera sauf avis contraire.

THE MINING JOURNAL, Railway and Commercial Gazette.

LONDON, JULY 31, 1875.

THE EMPLOYMENT OF FEMALES ON PIT BANKS.

A good deal of important and interesting evidence has been taken during the last week or two by the Royal Commission appointed to enquire into the operation of the Workshop and Factory Acts, of which Sir JAMES FERGUSON, Bart., is the chairman, and special attention appears to have been given with respect to the employment of women and young persons at pit banks. As females are only to be found working at mines in some two or three of our mining districts, the question as to their being allowed to do so or otherwise has been much discussed of late years, and opinions on the subject have been much divided. The Government Inspectors in the districts where such female labour is tolerated, as well as their owners, are favourable to the system being continued, whilst the men working at the same pits as the women, and the miners in all parts of the kingdom, are strongly opposed to it. The latter, supported by the outdoor public for years, have waged war against the employment of women at work which they affirm is not only degrading but too great a tax upon their physical powers. Whether from that or other reasons, for some time past there has been a gradual decrease in the number of females employed at our pits. Shropshire and the Wigan colliery districts appear to be those where women, clad in a most unwomanly garb, are principally to be seen working at the pit banks, and Mr. WYNNE, the Government Inspector of Mines, in his evidence given a few days ago before the Commission, said that such work was not objectionable for women, and it did not make them disorderly or untidy in their houses. He, therefore, deprecated any legislative interference with that description of labour, giving, amongst other reasons, that prohibiting female labour in Shropshire on the pit hills would have the effect of making ironstone considerably dearer than it was, because much higher wages would have to be given to men to do the same work. In opposition to this view, however, Mr. J. A. JONES, a Sub-Inspector of Factories, stated to the Commission that female work at mines was very hard, and worse than nail and chain making, for they had to lift weights, and were dressed almost in male attire, so that he had come to the conclusion that such labour was degrading in its results, and that women consequently ought to be debarred from working on the pit banks altogether. To some extent we go along with Mr. JONES, and although, like Mr. WYNNE, we do not wish for any legislative interference on the subject, yet we should like to see female labour at our pits entirely die out.

The question of the employment of women and girls at our mines we may say, was fully gone into by the Select Committee on Mines appointed by the House of Commons in 1866, when the evidence given was most conflicting, and as the subject has now been revived, a brief allusion to the evidence then given cannot but be acceptable. On that occasion Mr. DICKINSON, the Inspector of Mines for the Wigan and other of the Lancashire districts, gave it as his opinion that the women at the pits were as moral as any other class of workers, and he did not see any indecency in their dress or their manner; he, however, believed that ultimately they would be altogether withdrawn from the pits. Mr. GILROY, the manager of the Ince Hall Colliery, Wigan, in his evidence, stated that many of the women working at the pits had families that were looked after by old persons whilst the former were at work; and whilst admitting that the work they had to perform was hard, he considered it really a healthy occupation. He also said that if women were prohibited from such work it would have to be done by men, which would be

very much more expensive, and that the females at his pits, having been questioned individually, stated their preference for pit work to any other, and many of the men were opposed to any legislative interference on the subject. Directly opposite opinions, however, were enunciated by witnesses who were miners at pits where women were employed, as well as by others intimately acquainted with the Wigan district. One of them, PETER DICKINSON, a miner at Wigan, said there was more lewd language at the pits where women worked on the banks than in any other business where men and women worked together. The females he also saw were mostly the wives and daughters of miners, with some few widows; their attire was that of a man's, and in some cases it drowned all sense of decency between the males and females, they resembled one another so much. The women had breeches fastened round the waist; if wet, they put on a man's jacket, but in fine weather they had nothing over their shoulders, so that their dress was nearly the same as that worn by the women who formerly worked at the pit bottom. Another miner, named BAXENDALE, from the same district, gave evidence to much the same effect, adding that in his opinion it would be respectable for the women engaged at mines, and the country also, were the former prohibited from working at the pit banks, for there was no work so degrading. Mr. PICKARD, on being examined, spoke to the feelings of the women themselves on the subject, and said that many of them had expressed themselves to him in earnest terms that they would be most happy were a law passed prohibiting them from working on the pit hill. Some of the girls, he remarked, raised as much as 10 tons of stuff a day to go upon a railway by shovel or spade, so that the work was too heavy for them, whilst the pit hill was far more injurious to morals than a factory was. Further, he remarked, that the degradation in its social bearing was deplorable in the extreme, especially when the girls became colliers' wives.

Mr. E. JONES, manager, Lilleshall, described the work performed by the women to be drawing trams and taking the coal from the pit bank to the screens, and admitted that the additional expense of employing men to do the same work would be very great. So far as Scotland was concerned, Mr. MOORE, the Inspector, stated that in time no female whatever would be employed at the mines in that part of the kingdom. Such, we hope, will also be the case in all our mining districts, and we should like to see it hastened more than otherwise by the force of public opinion and the desire of the women now engaged at our mines. There can, in fact, be no two opinions as to the employment at pits, as at present, being degrading to women, and that the dress worn by them is most unwomanly. This, we believe, will be admitted by those who have visited some of the Lancashire districts and seen the women and girls returning from work in their male attire, and with faces black as coal dust can make them. In such a condition they cannot be expected to command that respect which those who work in factories and go to their occupation in the dress peculiar to their sex, and with clean and comely faces, really do.

But there is another side at which the question of the employment of female labour at pits cannot fail to interest those mineowners who do not employ other than male workers—the wages view. Mr. WYNNE and others have stated that one of the principal objects obtained by having females is that they work for considerably less than men would. This in itself is a decided advantage over other districts where only men and boys are allowed to do the drudgery peculiar to the top of a colliery or ironstone mine. But, at the same time, it appears to us most unfair towards the females, for, as Mr. J. STUART MILL puts it, "where the efficiency is equal, but the pay unequal, the only explanation that can be given is custom grounded on prejudice or on the present constitution of society." In weaving and other similar employment women receive the same rate of remuneration as the men, and we do not see why, in common fairness, the same should not be the case with respect to mines, or, in fact, work of any description. Why a woman should not receive the same amount for a given quantity of work that a man would we cannot understand on any common-sense rule, and we should certainly like to hear the reason why Mr. WYNNE and others evidently think that the difference should exist.

Looking at the purely social aspect of the question, we fail to see how a wife and mother can fulfil the duties of those positions when she has to labour for many hours daily on a pit bank at work of a most trying and exhaustive character. No one, we believe, will object to seeing a woman entirely independent of man for obtaining her livelihood, but at the same time we should like to see her employed at such work as will not degrade or unsex her, and tend to destroy in her all that we have been wont to look upon with respect and affection. We are, therefore, glad to find that the number of females engaged at pitwork is fast decreasing, and hope that the time is not far distant when the mines of Lancashire and Shropshire, as well as some of those in Scotland, will be worked without them, the same as those in nearly every other part of the kingdom. Such a consummation, we believe, will be as gratifying to the women and girls now working at pit banks as it will be fair towards the great body of the mineowners, who have long since done away with all female labour in connection with the raising of minerals.

VARIED RESULTS OF ROTARY PUDDLERS.

There is no one concerned in the iron trade of this country but will feel personally interested in the efforts which ironmasters and mechanical engineers are making to secure a machine which will enable them to puddle iron with the minimum of manual labour. We know that there is machinery very partially in use in France and in Germany, and in Sweden, and not without some measure of success, which is founded upon what has been designated in familiar phrase as the "revolving soup plate method;" but they are the rotary puddlers of Danks and Crampton to which the ironmaking world is now directing its attention in seeking a means of almost annihilating manual labour in the puddling process. They are amongst the advanced men of their order who are investing capital and skill in their attempt to solve this very important industrial problem. It had been confidently expected that the enquiries into the Danks process by the Puddling Committee of the Iron and Steel Institute would have issued by this time in the very wide adoption of that particular machine. Why the very favourable report which that committee made did not occasion the Danks furnaces to be put up at numerous works our readers by this time know well. No ironmaster, however, who has thought it prudent not to do that which he had originally designed in this matter has failed to watch very closely all that has been effected with it by those of his fellows who had the courage to invest their capital in the apparatus. But if the expectation of the on-looker has been favourably excited one month it has been almost correspondingly depressed the next. In the hands of one firm the machinery has been a pronounced success—in the hands of another it has been a pronounced failure. And this has been so in respect alike of the experiments which have been made in both the United States and in our own country.

So far as our own country is concerned, it is well known that the chief experiments have been conducted in the Middlesborough district and in North Staffordshire. In North Staffordshire the Danks furnaces have been worked so far to the satisfaction of Mr. Robert Heath, the proprietor of the Ravensdale Ironworks, that there the plant of six has been lately increased to ten, and the result has been to make that gentleman yet more satisfied with the outcome both as to economy and quality. Much less satisfactory has been the issue in the Middlesborough district. There, in one or two instances, the Danks has been abandoned, and now we hear that Messrs. Hopkins, Gilkes, and Co. have intimated to their workpeople that they too intend to stop the Danks furnaces which they have had in operation. Similar conflicting information comes from the States. Whilst at certain forges there the principle has been for the present abandoned, at others the number of furnaces at work is being increased. Amongst the latest Transatlantic information upon this head is that which relates to what is being done with the Danks furnace by Messrs. Graff, Bennett, and Co., of Pittsburgh. In the hands of the manager of this concern (Mr. J. J. Williams) the method has worked so well that there is being accomplished at the Mill Vale Mill, at Pittsburgh, that which has been done at the Ravensdale Ironworks, in North Staffordshire. The six Danks rotary puddlers,

previously in operation at the Mill Vale Mill, are to be augmented to ten—four more being now in course of building. Both at Pittsburgh and in North Staffordshire the machinery has attained the effectiveness which it possesses, because of the manner in which it has been taken in hand with a view to its perfection by ironmakers, &c., are more skilful mechanicians than Mr. Danks, his manager, and also the manager at Graff, Bennett, and Co.'s place, appear to have had the utmost faith in the possibility of making the Danks rotary machine a serviceable and economical machine, and they have neither of them been daunted by the apparent want of success which now and then appeared earlier in their operations. These impediments they believe they have pretty nearly overcome, and whilst managers go on with their improvements employers uphold their bands with the requisite funds. The result in these cases respectively is that Mr. Heath has more than once expressed himself satisfied with what is being done at his works, and Messrs. Graff, Bennett, and Co. are equally content. Mr. Heath points to the greater excellence of his plates when produced by the rotary puddler as compared with those made from the hand furnace; and Messrs. Graff, Bennett, and Co. illustrate the admirable quality of the iron which their rotary puddlers turn out by exhibiting filmy sheet-iron rolled from the muck or puddled bar of the rotary furnace without its having to be submitted to the other purifying operations hitherto held indispensable to the making of iron of so delicate a texture. Why these varied results are obtained in different districts we will not pretend to say; it is certainly noteworthy that the results have not been uniform, either in a favourable or in an unfavourable aspect.

Although certain ironmasters have felt themselves called upon to abandon the Danks, they have not yet given up all idea of attaining by rotary puddling the objects at which they aim. At the meeting last week of the North of England Industrial Iron and Coal Company (Limited), Mr. H. G. Briggs, the Chairman, reminded the shareholders that 12 months ago the directors in their annual report recorded "the signal failure of the Danks patent puddling-furnace, as originally constructed, to yield the profitable results to be expected from the statements of the patentee." That declaration by the board was, he said, much criticised at the time, and was commented upon as being rash and premature, but he claimed that subsequent events had substantiated the original assertion. The Chairman then went on to explain what, under the circumstances, the directors had done. He stated that "instead of wasting money for another 12 months they had boldly taken the bull by the horns," and had altered their mode of working to the system of heating by coal dust patented by Mr. Crampton. Mr. Briggs pointed to Hopkins, Gilkes, and Co., having put their men under notice to stop the Danks machines as being confirmatory of the views expressed at an earlier date by the directors of the North of England Industrial Company, and he desired to use as a further illustration the circumstance that the Eremus Iron Company had introduced several alterations. The North of England Industrial Company had now five Crampton furnaces at work, and the board did not regret the change it had made from the Danks to the Crampton system, but they had not yet overcome all the difficulties incidental to mechanical puddling. Perhaps even the firms, both in this country and in America, who have been most successful with the Danks are hardly prepared to say that they have no difficulties yet to surmount; but it should be borne in mind that where the system has been abandoned, least would seem to have been done in deviating from the original plans. We are advocates of neither the Danks nor the Crampton furnace more than any other, but we are advocates of the puddling of iron with the least practicable amount of manual labour. A similar desire we believe influences the representatives of the Government of this country, who have the management of such matters at Woolwich, yet at Woolwich, where it has been longest in existence, only one Crampton furnace is in operation, while, as we have just shown, five have now been started by one company in the North of England. It is clear that the problem of rotary puddling has not yet been wholly solved. Meantime we notice with satisfaction that double puddling-furnaces partly worked by machinery are increasing. M. Dormoy, we observe, is erecting one of his furnaces at the Northfield Ironworks, Rotherham, and there are three at work at Tadpole, near Ferry Hill. It has been before stated what Mr. Smith Cason is doing with a not altogether dissimilar furnace at the Round Oak Works, of the Earl of Dudley, and a double furnace worked with a tool actuated by machinery which has several points of excellence, is economical in its consumption of fuel, and turns out iron of a good quality, which is known as the Joe Pickles furnace, has just been got into operation at the works near to Stourport, of Messrs. E. P. and W. Baldwin, who speak of it very favourably.

IMPROVED CONSOLIDATED COAL.

The efforts made during the last quarter of a century to turn small coal into readily marketable fuel equal in value to that of the round coal from the same seam have been so numerous that it is frequently difficult to state in a few words wherein the novelty of each new process, as it is brought forward, consists; yet it is beyond question that whilst the large amount of success which has attended the development of many of the inventions satisfactorily demonstrates that the principle of agglomerating the coal dust before attempting to burn it is the correct one, the difficulties which have been encountered in reducing the principle to practice shows quite as clearly that modification of details is still necessary to arrive at perfection. Perhaps the most important point in connection with the solution of the problem is the choice of an agglomerating material, and in making this choice many circumstances have to be considered. The agglomerating material must be free from objectionable odour, and from the liability to give off deleterious vapours, or the resulting fuel will be alike valueless both for steam generating domestic purposes; it must not possess less heating power than the original coal, nor leave more ash when burned, or the resulting fuel will only be saleable at a diminished price; and it must be cheap, or the fuel cannot be produced at a price which will enable it to compete successfully with the round coal in the market. It is these considerations which have practically limited the choice to pitch, tar, and farina; milk of lime, the other agglomerating most largely tested, although producing a hard and compact fuel, causing so large an addition to the percentage of ash that it has always been very quickly abandoned by inventors who have adopted it.

Both the pitch or tar—or, as it has been popularly designated, the bituminous—and the farina processes have given good results, but it has been very generally felt that both had their shortcomings, and it has now been found that a combination of these was alone required to secure the desired results. On Thursday the directors of the LONDON AND PROVINCIAL CONSOLIDATED COAL COMPANY invited a number of engineers, scientific gentlemen, and others to inspect their works and witness the working of the process at their manufactory at Blythe-lane, Hammersmith, and the simplicity of the process and solidity of the manufactured fuel was acknowledged to be most gratifying. The managing director, under whose direct supervision the work was being carried on, explained that it was a fundamental part of his system to manufacture the fuel near the place of consumption, as the small coal could be carried at a merely nominal cost, and by consolidating it at its journey's end the maximum quantity of saleable fuel, all absolutely free from damage, is obtained. The bituminous portion of the agglomerating material, Stockholm pitch and tar, is thoroughly melted and combined with a small quantity of starch or farina, a little sulphate of lime, not enough to have any deleterious effect upon the fuel, being added to decompose the ammoniacal products in the bituminous matter, and thus deprive the manufactured fuel of any unpleasant smell. The proportions are—pitch, 90 lbs.; tar, 3 gallons; farina, 5 lbs.; sulphate of lime, 5 lbs. to the ton of coal consolidated, the coal used in this case being the screenings bought up at the railway coal depots around London. This liquid farinaceous bitumen is mixed with the small coal in the proportion of not more than 5 per cent, and the prepared coal is at once thrown into the hopper of the consolidating machinery—a simple Bodmer press, which turns out the finished bricks as fast as the barrowman can remove them. They undergo

no further treatment whatever, being at once wheeled off and stacked in the yard ready for delivery to the consumers, of which the company has no difficulty in finding a larger number than they can with their limited machinery supply.

The process has been so recently got to work that no systematic comparative experiments have yet been made, but from the result obtained at Woolwich; 992 lbs. of the fuel having evaporated 765 gallons of water, which would represent about 7½ lbs. of water evaporated per lb. of fuel consumed, the consolidated coal would seem to be fully equal for the generation of steam to the average of steam coal offered in the market. Much still remains to be done in completing the works so as to adapt them for carrying on the amount of business that could readily be obtained, but no doubt was felt as to the practicability of the process and the facilities for introducing it on a large scale.

SOCIETY OF ENGINEERS.

This useful and energetic society completed its 20 years of existence last year, having been established in May, 1854, and it is gratifying to find that the volume of Transactions for 1874 gives the same evidence of constant progress which has been observable for several years past, the record of the year's proceedings embracing a large collection of really valuable papers upon a variety of subjects of especial interest to practical men. In societies of this class the amount of information brought together naturally increases with the number of members, and everyone connected with the Society of Engineers may feel proud that the president (Mr. M. Macgeorge), in inaugurating the twentieth anniversary, was enabled to announce that it has now "fairly taken its place as one of the scientific institutions of England," although it had "not altogether escaped those vicissitudes which frequently accompany growth. He trusted they might congratulate themselves on their present position, and anticipate increasing power and usefulness." He observed that it had been sometimes asked by engineers whom he had invited to join their society—"What is the use of it, and how can it benefit me?" and he explained that, though selfish questions were readily answered so as to show that even on the lower ground of personal advantage the benefits to be derived were great, not the least being the meeting of brother engineers, and acquiring from them a real practical knowledge of those branches of engineering in which one may not himself have been specially engaged.

The "Transactions" afford a ready means of ascertaining the character of the knowledge to be acquired by securing the membership of the society, and these embrace careful papers, with the resulting discussion—"On Recent Improvements in Tin-Dressing Machinery," by S. Herbert Cox; "On the Ventilation of Coal Mines," by Geo. G. André; "On Modern Systems of Generating Steam," by N. J. Suckling; "On Mechanical Puddling," by P. F. Nursey; "On the Action of Marine Worms, and the Remedies Applied in the Harbour of San Francisco," by John Blackbourn; "On Tramway Rolling-Stock and Steam in connection therewith," by Chas. C. Cramp; and "On the Forms and Construction of Channels for the Conveyance of Sewage," by John Phillips. Each of these papers are really useful little treatises on the subjects of which they treat, being, as the President very properly suggested, "short, precise, clear, and pointed in their style, practical in their character, and forming rather tests for discussion than having any pretence to exhausting their subject." The report of the discussion (and it should be here mentioned that the reporting of the proceedings and editing of the volume has been very efficiently performed by Mr. Perry F. Nursey, the secretary) shows that a vast number of valuable practical observations were elicited, and that the papers and discussions together placed information at the disposal of the members which could scarcely have been hoped for from other sources. The volume, which is very amply illustrated, is one which should be carefully studied by every practical engineer, and one which will assuredly cause the number of the society's members to increase.

BLANZY MINES.—These important mines, situated at Montceau-les-Mines, Saône et Loire, France, are mostly the property of Messrs. Jules Chagot and Co., of Paris. Professor Burat, of the Central School of Mines, is also interested in the undertaking. The underground works are under the direct management of M. Petitjean, assisted by numerous staff of officers. The mechanical department is directed by M. Grallish. In May last arrangements were made between Messrs. Chagot and Mr. Darlington for the entire use of the Darlington borer at the Blanzy Mines, and since that time the Darlington method of distributing the air by means of the piston and passages formed in the cylinder has been solely employed. The proprietors of the Blanzy Mines also represent the Darlington borer for the whole of France, and construct the borers at their workshops at Montceau-les-Mines. By mutual consent between the proprietors of the Blanzy Mines and Mr. Darlington the borer is known in France as the "Darlington-Blanzy Borer."

THE SUB-WEALDEN EXPLORATIONS.—Mr. Willet, writing on the Sub-Wealden Exploration, says that the work is temporarily arrested at 1672 ft. from increasing deposit from the sandy beds. The original problem was dependent upon the opinion of geologists that palæozoic rocks would be found at a depth varying from 700 ft. to 1700 ft. So far, however, the strata are mesozoic, but the latest fossils give some indications of a palæozoic rock. Much hope is, therefore, entertained of solving the problem.

MINERAL RAILWAY IN SHROPSHIRE.—The Snailbeach Company's railway has made a good start, and the works in course of construction for the line are already prominent objects from the Pontesbury and Minsterley Stations. It is understood that the line at present proposed will terminate about 3½ miles from Roman Gravels, to which, as also to the South Roman Gravels and Tankerville Mines the line may probably without much difficulty be extended if the shareholders in these mines take the same view of the advantage of a line up to their works that the Snailbeach Company have not been slow to perceive; nearly the whole of the intermediate level is in the hands of one landowner, Lord Tankerville, with the exception of the Marquis of Bath's land, through which it is understood the present line is not expected to extend, at most probably half-a-mile. Land has been taken for an ordinary gauge, but it is intended in the first instance to lay rails for the narrow gauge. The most distant mines, Pennerley and Bog, would probably be the greatest gainers by an extension of this line, which would be the commencement of a new era to the district.

EXPORT OF COAL.—The annual Parliamentary return, relating to the export of coal, shows Newcastle, as always, at the head of the list of ports of the United Kingdom from which our coals are shipped for foreign parts, but in this foreign trade Cardiff approaches it. In the year 1874 the quantity of coals, cinders, and patent fuel exported from Newcastle was 3,283,812 tons, and from Cardiff 3,011,765 tons; from all ports of Northumberland and Durham 5,852,631 tons, and from the ports of Wales 4,292,422 tons; the export from the whole of the United Kingdom reaching the large amount of 13,927,205 tons. The quantity of coals, cinders, and culm shipped not for foreign parts, but coastways, from port to port of Great Britain, in 1874 was 3,609,224 tons, and in this traffic Cardiff loses its position, the shipment from that port being only 840,696 tons, but from Newcastle 2,255,414 tons, and the whole shipment from Welsh ports being but 2,278,780 tons, while the shipment from ports of Northumberland and Durham coastways was 4,785,085 tons. Our shipmen of coal to France and Germany constitute nearly one-third of our total export of coal to foreign countries and British possessions.

COAL AND IRON IN THE UNITED STATES.—The movement of coal over the Philadelphia and Reading Railroad amounted last year to 6,348,812 tons, as compared with 4,239,457 tons in 1869, 3,065,577 in 1864, 1,632,932 tons in 1859, 1,937,854 tons in 1854, and 1,097,762 tons in 1849. The gross revenue of last year amounted to £1,452,121; of this revenue £8,920,914 was derived from the conveyance of coal. The Grant Locomotive Works are completing some locomotives for Russia. English rails are quoted at New York at \$48 to \$50 per ton gold; American rails have brought \$48 to \$50

per ton currency at the works. The production of anthracite coal in Pennsylvania to June 26 this year was 6,363,967 tons, against 8,808,291 tons in the corresponding period of 1874, showing a decrease this year of 2,440,324 tons. The production of bituminous coal in Pennsylvania to June 26 this year was 1,516,737 tons, showing an increase this year of 76,196 tons. Preparations for mining coal are steadily progressing all through the anthracite regions, and at several places in the Schuylkill district active operations have recommenced. This is a satisfactory sequel to the great strike which afflicted the Pennsylvanian coal trade earlier in the present year.

VALUATION OF LEAD MINES.—Mr. T. F. Hedley, of Sunderland, having been employed by the Newtown and Llanidloes Union Assessment Committee to value the lead mines in that Union, has printed his report and published it through Messrs. Shaw and Sons, of Fetter-lane. The mines had not previously been rated, and the 13th section of the Rating Act, 1874, provides that "Nothing in this Act shall apply to a mine of which the royalty or dues are for the time being wholly reserved in kind, or to the owner or occupier thereof." Mr. Hedley finds that the Van Mine is not rateable under the Rating Act, 1874, because "the dues are wholly reserved in kind," and proposes to assess the property under the statute of Elizabeth (which exempts all mines other than coal mines from the rate) at 8842.12s. 8d. and he thinks that of this 5849.12s. 8d. must be assessed on the lessors, and 2993. on the mine adventurers, whilst he shows that if the royalty were payable in money, and the mine rateable under the Rating Act, 1874, the rateable value would be but 5933. 2s. 8d., equal to a difference (assuming the assessment under the Act of Elizabeth to be legal, which is exceedingly questionable) of 2909. 10s. against the mine, which would deprive the shareholders of 4s. per share per annum dividend. All the lead mines in the Union appear to be similarly circumstanced.

REPORT FROM CORNWALL.

July 29.—There is no change worth reporting in the general condition of mining matters in the county. Everything is still, and naturally very depressed, and as a point of fact quotations for tin are considerably below the official standard; and those who sell black tin under present circumstances have to drive their own bargains, a game in which the buyers have decidedly the best of it. Very few people are likely to have the courage of Capt. Boys, of Wheal Owles, who still continues to stock his tin. This process has paid him before, and we hope it may again, though we confess it seems rather doubtful; yet it is only fair to say, as possibly affording a bright spot in what is else so dreary, that several of our most experienced mine managers believe that matters will improve very shortly. Before that improvement comes, however, the chances are that the number of our tin mines will be very considerably reduced. One of the first concerns to succumb has been St. Just Amalgamated. At Botallack, which continues to look well, a number of hands have been discharged to reduce the tutwork.

The china-clay recently discovered at Balleswidden, in the extreme west of Cornwall, is likely to turn out well, and if so will in some measure compensate for the depression in that district of mining proper. In the St. Austell district the arrangements for the formation of a Clayworker's Union continue to make headway, in spite of the opposition which has been shown in some quarters. It is very evident that the late attempt to reduce the wages was a very serious blunder, and is likely to leave evil consequences behind.

The annual show of the Royal Cornwall Agricultural Society, held at Truro, proved unprecedently successful. There were no tokens there of any depression in the county, and judging by the numbers who attended anyone might have been pardoned for thinking that the county was never in a more flourishing state. The judge of implements awarded a medal to Marsden's stone breaker and ore crusher, which was shown in operation.

The Devonshire Association for the Advancement of Science, Literature, and Art has held its annual meeting this week at Torrington, under the presidency of Mr. R. J. King. Among the papers read were two on the "Economic Geology of Devon," by Mr. R. N. Worth, F.G.S., and Mr. Appleton, F.I.B.A., and one on the "Anthracite Beds of the North of Devon," by Mr. Townsend Hall, F.G.S. Mr. Worth took a general survey of the whole subject of the economic geology of the county, and dealt at some length on the enormous amount of water power wasted both in Devon and Cornwall. Mr. Appleton dealt chiefly with building stones and their congeners. Mr. Hall gave a full account of the anthracite beds of North Devon, which are now only worked for the manufacture of paint.

REPORT FROM DERBYSHIRE AND YORKSHIRE.

July 29.—Very little alteration has taken place in the condition of the Iron and Coal Trades of Derbyshire during the last week. The former keeps up very well, considering the state of affairs in nearly all other iron-making districts, and there does not appear to have been any falling off in the make of pig iron, or even in the manufactured article. Some of the leading foundries have considerable orders in hand for pipes and other castings. Malleable iron goods are also in very fair request, and the Bessemer establishment at Dronfield has been doing a very good business in rails. House coal is still in but moderate demand, so that at several collieries the men are not working much more than half-time, although prices are what may be truly called remarkably low. Less is being sent to London from several districts, and the consumption is very little, if any, in excess of what it was this time two years, when coal was about 8s. per ton higher than it now is. This shows that consumption does not keep pace with the increase of population. Steam coal has improved of late, especially for shipment. The question of a reduction of wages is now being seriously entertained, and at some places the men have accepted the terms proposed by the employers. The Shirland Colliery, Alfreton, may now be said to be the property of the Miners' Association, for although there are certain formalities to be gone through before actual possession is taken, it is understood that the sum of 35,000, one-half of the actual purchase money, has been paid, whilst the remainder is to be paid by instalments running over 21 years, interest being charged at the rate of 5 per cent. per annum. On Monday there was a meeting of the North Derbyshire and South Yorkshire colliery owners, at the offices in Sheffield, for the purpose of considering the wages question. The meeting was adjourned for a week. When the last reduction took place, in April, it was agreed that there should be no further reduction for four months, which period will expire in about three weeks. Then there is very little doubt but what a reduction will be proposed and accepted, for the men and their leaders are well acquainted with the present state of the trade, and also with the fact that the members of the Miners' Association of the two districts have been much better paid of late than the miners in any part of the kingdom. This, of course, has been so much loss to the masters.

The Sheffield manufacturers, with few exceptions, still complain of slackness, and the low prices at which orders are offered to them. Heavy plates have kept the mills well going, but those rolling Bessemer rails are by no means active, but there is sufficient to keep them on full time. The engine works are doing a good business, several locomotives being in hand for narrow-gauge lines in South America. Fine malleable castings are being extensively produced by the leading firm long noted for the exquisite character of their castings. In South Yorkshire the house coal trade is still particularly quiet, and stacks are to be seen on a good many of the pit hills, which ensures a considerable loss from exposure and other causes. Owing to the recent reduction in the price of steam coal from 12s. 6d. to 11s. 6d. per ton it moves off more freely, especially for exportation from the Humber ports. At several collieries in the district around Barnsley matters are in a very unsettled state. The men at the Ross and Old Mill Pits are still out, no agreement having been come to with respect to the wages to be paid for certain descriptions of work. At the Nos. 1 and 2 pits at Darton, belonging to Thorpe's North Gawber Colliery, the men have been under notice, which expires on Saturday, when the number of persons at present idle will be increased by between 200 and 300 more. At the colliery being sunk at Worsborough, near Barnsley, to the Silkstone

coal, by the Barrow Hematite Company, a number of the sinkers have received notice to leave, as it is not intended for some time to proceed with the sinking of more than one shaft, instead of the two. At several collieries it may also be said the colliers are still on short time.

REPORT FROM LANCASHIRE AND CHESHIRE.

July 29.—There is no change to report in the position of our Coal and Iron Trades. In the former stocks are accumulating, and list prices are by no means adhered to. In iron there are very few transactions, and these only to cover immediate requirements. The Salt Trade is in an exceedingly good condition, and the shipments for this month will, probably, be heavier than for some years past. The transactions for the past half-year have been more extensive than in any similar period since 1871, which will be remembered as an exceptionally prosperous year. Prices may be quoted as follows:—Common, 9s.; butter, 11s.; stoved, 13s.—less 2½ per cent. at the works. There are being opened out in Lancashire, in connection with the iron trade, works which will introduce the manufacture of spiegeleisen on an extensive scale. Already one iron company is producing spiegeleisen showing a percentage of manganese varying from 12 to 18.

On Wednesday the summer meeting of the Institution of Mechanical Engineers opened at Manchester, Mr. F. J. Braundell, F.R.S., the president, in the chair.—[The proceedings of the meeting are given in the Supplement to this week's Journal.]

TRADE OF THE TYNE AND WEAR.

July 29.—The Coal Trade is very quiet, and stocks are accumulating at many of the works. The continued dullness in the iron trade has had a bad effect upon the coke trade, and the make is to be reduced considerably. Messrs. Straker and Love, the largest coke makers in Durham, have given notice to nearly 500 men that they will not require them after the end of the present week. The demand for house coal has improved a little; a fair business has also been done in steam coal lately, but the demand for manufacturing coal is much weaker, and prices are falling. The annual return relating to the export of the coal shows that Newcastle is at the head of the list of ports of the United Kingdom, the exports having been 3,282,812 tons, and from Cardiff 3,011,765 tons. From all the ports of Northumberland and Durham the exports were 5,852,631 tons, being nearly one-half the entire exports from the kingdom, the total being 13,927,205 tons; Newcastle also shipped coastwise in the year 1874, 2,255,414 tons, and the whole shipments from Northumberland and Durham coastwise were 4,785,085 tons.

The quarterly meeting of the Miners' Permanent Relief Fund was held, on Saturday, at Newcastle. Mr. J. Howie, of Hunwick, was elected chairman. The secretary (Mr. Blyth) stated that the number of members are still rapidly increasing; 4000 had entered during the quarter, making 54,000 members in all. The contributions from members now amount to 7500/- per quarter, equal to an income of 30,000/- per annum. The funds afford relief to 1150 persons, comprising widows, children, disabled and aged miners. The owners and managers of collieries continue to give them assistance and support. The committee received a deputation from the Cleveland miners, consisting of John Scott and others. They desired to be admitted members of the Fund. After hearing the statement of the deputation, a sub-committee was appointed to compare the liabilities of the Cleveland miners to accidents, as compared with the same liabilities of the Durham and Northumberland miners.

There was a good attendance at Middlesbrough on Tuesday. The tone of the trade was very quiet, and few sales were made. Shipments to foreign ports have been on a good scale, but the demand by rail and coastwise is very moderate. Sales are made at 49s. per ton for No. 3, and No. 1 about 55s. There is no improvement in the finished iron trade—that is, for rails and bars. The demand for ship plates, bridge work, girders, &c., continues good. It is hardly possible that iron can go any lower. Furnaces will be blown out. The prices of finished iron are unaltered—rails, 7½. 6d.; common bars, 7½. 15s.; puddled bars, 5½.; ship plates, 8½. 10s. to 8½. 12s. 6d. At the annual meeting of the North of England Industrial Coal and Iron Company, held a few days ago, a promising statement was made with reference to mechanical puddling by a combination of the Danks and Crampton process. Coal and coke tending downwards in price.

PEAT FUEL.—The Cleveland Institute of Engineers have made an excursion to the peat works of the London Lead Mining Company at Middleton-in-Teesdale. This company was among the first to adopt the patent peat compressing machine of Messrs. Clayton, Son, and Howlett, of Manchester, and it has now been at work with unvarying success for a considerable time. The condensed peat is supplied to the miners and other employees of the company instead of coal, for which it forms an excellent substitute, and it is also adopted in the manufacture of gas at their smelting works above Middleton. It is interesting to note that practical men have pronounced the gas to be second to none, except oil gas, in illuminating power. The quantity of gas made from a ton of peat has been roughly calculated at from 6000 to 8000 cubic feet, and it is asserted that from the very few impurities which peat contains, its gas has a decided advantage over gas made from coal. The cost of manufacturing peat fuel is not more than 6s. 6d. per ton, and where it is produced in larger quantities the cost is considerably less. The members of the Cleveland Institute of Engineers cannot fail to be interested in a branch of manufacture which, in its present form, is not only of comparatively recent origin, but for which it is claimed that sooner or later it will make encroachments upon the great ally of the iron trade—the manufacture of coke, on the ground that peat fuel is more pure and, therefore, better adapted for metallurgical purposes than any other.—[Full particulars of this excursion will be found in another column.]

REPORT FROM MONMOUTHSHIRE AND SOUTH WALES.

July 28.—Although, in considering the present position of the Coal Trade in this district, it must be admitted that prices have fallen to a very low ebb compared with what they were a few months ago, still the trade is undoubtedly the most extensive and profitable at the present time. For a time at least, if not as a permanent thing, the coal trade is becoming the leading staple of the district. Although a brisk demand prevails, the prices realised by the owners do not leave much of a balance in their favour, after deducting the cost of the output. The proprietors are doing their utmost to make up for lost time—a fact not much to be wondered at, and complaints are prevalent that the pits cannot work full time. The output exceeds greatly what it would be in the ordinary course of affairs. Coal is not required to any extent in the ironworks, and ironmasters, with a view to recoup themselves for the stagnation of their trade, are supplying the market with large quantities of coal, and it must be remembered that many of the leading ironmasters are the possessors of magnificent pits in the two counties of Monmouth and Glamorgan, and have facilities for bringing to the surface very large outputs. It is not to be wondered at, therefore, that they are preparing to increase the supply to a large extent. Necessarily, then, the supply exceeds the demand, though the latter is exceedingly large, therefore it can be readily seen, while considerable activity is the order of the day in some instances, in others complaints might prevail. There is little further alteration to be noted in quotations.

The rate of dividend declared by the Bilson and Crump Meadow Colliery Company is 10 per cent. per annum for the last half-year. Moreover, the satisfactory announcement is made by the directors that this dividend is more than warranted by the net profits shown at the end of the half-year, and this notwithstanding the fact that the collieries were condemned to enforced idleness for several weeks during the strike which prevailed. Another announcement of a pleasing nature is made—that the wages question has been arranged on a fair and equitable basis. An understanding is said to exist between employers and employed that the price for coal-cutting shall be 1s. 10d. per ton when the selling price is 14s., and that consequently with every shilling rise in the selling price a further sum of 2d. per ton shall be paid to cutters. It is also provided that the 1s. 10d. mentioned as the price for cutting shall not be reduced below that sum, nor shall the selling price be advanced above 20s. Under these circumstances a recurrence of the late lamentable state of affairs may be said to be prevented. The Bilson and Crump Meadow Colliery Company, which has proved so highly successful an undertaking, was launched two years ago by Mr. H. Russell Evans, of London and Newport.

As will be inferred from the remarks made above, no improvement

can be noted in the iron trade, and, if anything, less activity prevails, and prices must be reported as weaker.

The question of children working half-time came before the Royal Commission of the Factory and Workshops Act at Newport, when it was stated that the number so employed was very small in manufacturing districts, the provision being found impracticable at ironworks and collieries.

The same dull state of things still characterises the Tin-Plate Trade, and the prospect of improvement is very remote, while the make is limited.

The proprietor of the Haford and Tylococh Collieries, Rhonda Valley, Mr. Thomas Jones, and his manager, John Williams, have recently been fined 40s. each by the stipendiary magistrate at Pontypridd for not providing proper means of communication in one of their shafts. Mr. Wales, Government Inspector of Mines, and Mr. Galloway, Assistant Inspector, proved the non-compliance of the defendants with the law.

STRIKING THE STEAM COAL IN THE GREAT WESTERN COLLIERY.—For some two years the company owning the Great Western Colliery has expended a large sum of money in sinking two pits in search of the steam coal seams, and the fact that 25,000t. has been absorbed in surface works affords an indication of the magnitude of the operations that are contemplated. The crown of the 5 ft. 10 in. seam was struck on Wednesday, and by Thursday its thickness was ascertained. The coal, it is said, possesses great heating power, and is pretty free from gas, while during the sinking comparatively little water was met with. The depth of the coal which was struck in the upcast shaft is about 360 yards. In the downcast the men are within 10 yards of that distance. The company intend sinking to the 4-ft. seam, which it is hoped will be reached by the end of the year. This will add some 60 to 100 yards to the existing depth. The deepest pit in the valley is the Dinas pit, which is 420 yards down. The Great Western pit, however, will be deeper than this, and will thus be the deepest pit in the Rhondda Valley. With the assistance of a pair of 40 horse power horizontal engines Mr. Thomas Harrison, the manager, expects to raise 1000 tons of coal every day.

REPORT FROM NORTH AND SOUTH STAFFORDSHIRE.

July 20.—The Iron Trade of South Staffordshire continues to exhibit alike in the pig and the finished departments a decided lack of vigour, notwithstanding that buyers now fully recognise the impracticability of any further concession being made at present in the rate of wages. Pig-iron is selling at 24.17s. 6d. to 37s. per ton for common cinder, and 42.10s. to 42.15s. per ton for best native alluvium. A fair quality of pig, mixed cinder and mine, is selling at 42.5s. per ton. Foundry pigs continue to command a much steadier enquiry than forge, and prices are, on the whole, much better supported. Messrs. Firmstone are, it is said, about to put three of their furnaces out of blast, which will reduce the total no-blowing in the district to 77. In the finished iron trade the only demand of importance is for sheets, and even this begins to show a falling off in activity. Common (unmarked) bars are selling at 82.5s. per ton; and branded bars are steady, at 102. to 102.12s. 6d. per ton, the rates for hoops, rods, plates, sheets, and other descriptions of finished iron being in the usual proportion to these prices. Galvanised roofing sheets are in much improved enquiry since the recent reduction in quotations, although there is nothing like the buoyancy in demand which we were able to report a few months ago.

The Coal Trade of South Staffordshire is quiet, but, on the whole, there is rather more doing than last reported, and prices for the better qualities are very fairly sustained. Cannock Chase best "deep" coal is very firm, at 14s. per ton.

The Cannock and Wimblebury Colliery Company will commence winding at the new sinking near Hednesford early in the winter season. The coal seams proved on this compact little estate are of splendid quality.

The following are included in to-day's quotations on the Birmingham Stock Exchange:—Sandwell Park Colliery (10 paid), 31½; Cannock and Huntington Colliery, 1½ prem.; John Bagnall and Sons (Limited), 5½; Chilington Iron, 5½; Pelsall Coal and Iron, 5 d.; Spofforth Colliery, 1½ prem.; and Staffordshire Wheel and Axle, 2½ prem. The tone of the market is steady, and in addition to a steady trade in local stocks, considerable business is doing for *bona fide* investment in Anglo-American Telegraph, and Metropolitan District, Chatham and Dover, and other low-priced railway stocks which give promise of steady and substantial improvement.

The Dudley Institute of Mining Engineers have this week been on a visit to the mines and ironworks of North Staffordshire, where they have been most cordially welcomed and sumptuously entertained by the Duke of Sutherland and the Chatterley Iron Company, whose mines and works constituted the principal attraction. [A full account of the proceedings appear in the Supplement to this day's Journal.]

The North Staffordshire iron trade does not show much improvement, and the ordinary course of business is being just now considerably interrupted by a series of local holidays usual at this season of the year. Prices are unsettled, and a good deal of unerselling is prevalent. The current shipments to the United States are of no importance. The markets for coal and ironstone are flat, and without improvement.

RAILWAY ROLLING STOCK COMPANY.—The general meeting of shareholders was held, at their offices in Wolverhampton, on Tuesday. Mr. H. Perks presided; and there were also present Messrs. H. H. Fowler, R. Perks, J. Perks, John Hartley, B. Savage, Merriden, J. E. Underhill, B. Hicklin, H. Ward, G. Ward, S. Loveridge, J. Cooper, and Tottey. The report, presented and adopted, was as follows:—The profits of the last half-year amounted to £53,771. 1s. 1d., and the accounts have been duly audited by the auditors, who certify that they are correct. The directors recommend a dividend of 6 per cent. (less income tax) on preference shares, and a dividend of 10 per cent. (free of income tax) on the ordinary shares. If the dividend is approved, it will be paid, as usual, at the close of the meeting. After deducting from the reserve fund 112½. 5s. 5d., which will be required to complete the dividend, that fund will stand at 7211. 19s. 3d.; 119 wagons have been completely paid for during the past half year, and become the property of the lessors; 319 wagons have been purchased, and leased to various companies and firms during the same period, being the largest number purchased by the company in a similar time since its formation. There seems every prospect that the business of the company will extend in the future; but the rates for leasing wagons are not so favourable as they were formerly, and, therefore, an increased business is necessary to procure the same result as in the past. Your directors assure you that no exertion on their part shall be wanting to promote continued prosperity. The dividends having been formally made payable, the Chairman, the directors, the secretary, and the auditors were all thanked for their services. The acknowledgment of the complimentary votes ended the meeting.

THE SCOTCH MINING SHARE MARKET—WEEKLY REPORT AND LIST OF PRICES.

During the past week the market has again been quiet; the reduction, however, in the Bank rate to 2½ per cent. to-day will, it is expected, help to make business brisker. In shares of iron and coal concerns the movements have all been to lower prices, the only improvement being in Marbella, which have risen 2s. per share. The reductions comprise:—½ on Benhar (all paid), ½ on Bolckow Vaughan A, 2s. on Monkland ordinary, ½ on ditto 7 per cent. guaranteed preference, and 1s. on Omon and Cleland. Bolckow Vaughan B shares (30s., all paid) are 4½ to 45. Glasgow Port Washington shares of 10s. each are now fully paid up, the last call of 2s. per share being made payable on Aug. 16; they are 3s. lower on balance for the week. South Cleveland Ironworks (in liquidation) are 2½ to 3½. United Bituminous Collieries, ½ to ½. In shares of copper concerns there have been some important fluctuations. Rio Tinto having improved 1½ per share, while Tharsis have, at 21½, declined no less than 2s. aslo as 20s. was, however, touched this forenoon, so a rally appears now to be likely. The new shares, at 14½, also mark a fall of 1½. Cape is ½ better; but Canadian Pyrites and Huntington are each 1s. lower per share, but better prices may be looked for in these shortly. Gunnislake (Clitters) remain at 1½ to 1½. Marke Valley is 1½ to 1½, with a demand springing up of a good character. East Caradon is ½ to ½, and cheap. Elgar, Snowbrook, and South Roskear shares have all been offered, but no buyers. The following four cheap shares may be called attention to; it is quite difficult to see how they can go any lower:—Drake Walls (6d. paid), offering at 5s.; Dunsley Wheal Phoenix (2d. paid), quoted 2s. to 4s.; Prince of Wales (26s. 6d. paid), quoted 2s. to 4s.; and West Maria and Fortescue (9s. 6d. paid), quoted 4s. to 8s. In shares of gold and silver mines prices are generally lower, the chief fall being ½ on Flagstaff and 1 on Richmond. Javali is offered a little lower, but seems cheap enough now. Colorado Terrible has been firm at 3 to 3½, and seems to be the cheapest share in this market at present. In miscellaneous the principal movement has been a fall of ½ in

Scottish Wagon (all paid) shares, owing to the disappearance of the secretary. The new (4d. paid) shares are quoted the same, at 9s., but have not been dealt in. An interesting report on the Conglog Slate and Slab Company is given elsewhere. A detailed list of the several days' business follows:—

THURSDAY last a moderate business was done. Benhar (all paid) done at 10½. Colorado Terrible firm at 2½ to 3½. Emma done at 36s., closing 36s. to 37s. Huntington, 4s. to 4½. Marbella done at 8s., closing 8s. 6d. to 8s. Monkland ordinary lower at 5s. to 5s. Omon and Cleland also lower at 47s. 6d. to 49s. 6d. Richmond Consols better at 13½ to 13½. Rio Tinto firm at 7 to 7½; owing to the announcement by telegraph of the railway being completed. South Cleveland Ironworks, 2½ to 3½. Tharsis done at 23½, closing 23½ to 23½; new shares lower at 15s. to 15s. Young's Paraffin, 5½ to 5½. Scottish Wagon (all paid) flat at 12½ to 12½; the secretary of this company is missing.

FRIDAY rather more business was done. Benhar (all paid) again changed hands at 10½. Canadian Copper Pyrites done at 38s., closing 37s. 6d. to 38s. 6d. Colorado Terrible, 3½ to 3½. Ebbo Vale done at 17, closing 17 to 17½. Emma, 36s. to 38s. Glasgow Caradon original done at 26s. 6d. Flagstaff done at 15½, closing 1½ to 1½. Marbella good, done at 8s. 6d. and 8s., closing 8s. to 8s. Marke Valley, 1½ to 1½. Monkland ordinary again lower at 5s., 6s. Omon and Cleland, 45 to 49s. Pannell, 1 to 1½. Richmond, 13½ to 13½. Tharsis done from 29-16ths to 23½, closing 23½ to 23½. West Maria and Fortescue, 4s. to 8s.

MONDAY fair business was done. Benhar (all paid) done at 10½, closing 10½ to 10½; new (5d. paid) shares done at 5½, closing 5½ to 5½. Canadian Copper Pyrites done at 38s. 6d. to 39s. Cape Copper, 34 to 35. Emma, 36s. to 38s. Glasgow Port Washington shares are now dealt in, with 10d. paid; transactions took place at 6s. and 6s., closing 6s. 6d. to 6s. Huntington done at 40s. 6d. to 41s. 6d., closing at these prices. Marbella done at 8s., closing 8s. to 8s. Monkland ordinary, 5s. to 5s. Tharsis flat at 12 to 12½. Scottish Australian higher at 13½ to 13½. Tharsis opened at 23½, closing 23½ to 23½; new shares done, declining, being done at 18 and 18½, closing 18½ to 18½. Young's Paraffin, 5½ to 5½. Scotch Wagon (all paid) done at 12½.

CONGLOG SLATE AND SLAB COMPANY (LIMITED).—The following, showing the progress made at the company's quarry, is from a short report made by the managing director:—"The tramway, nearly one mile in length, has been completed from this quarry to the Cwmorthin quarry, in connection with the Festiniog Railway, to Portmadoc, which will enable all the machinery and materials to be conveyed to the works at a small expense. The line is well constructed and in good working order. At the junction with the Cwmorthin tramway an incline has been constructed 160 yards long, with a double line of rails, drum house built, winding-drum and wire ropes fixed, also gates, fences, bridges, &c., erected, required by the agreement with the Cwmorthin Company. A wheel-pit has been built and a water-wheel 32 ft. in diameter by 4 ft. breast erected, which will be of sufficient power to work 24 sawing and planing tables. An incline 110 yards long, connecting the several galleries with the machine house, has been laid down, with a double line of rails, drum house erected, drum and steel wire ropes fixed, and all in good working order. One machine-house, 250 ft. in length by 42 ft. wide, will be completed by Aug. 1; and a second building of similar dimensions will be erected this summer. The whole of the machinery contracted for will be delivered at the quarry and fixed for working in the month of August. There is already sufficient slate to roof our own buildings; and although the rock used for this purpose was not 12 yards from the surface, the quality of the slate is all that could be desired. I am informed that no other quarry in the locality ever produced such slate at this shallow depth. The deeper tunnels are being pushed on as rapidly as possible. The slate improves every yard driven. The longest tunnel is now 170 yards into the slate bed, which still holds as good as ever, proving the unusual value of our property, as most slate beds in the locality are only from 50 to 60 yards thick. I am better satisfied than ever as to the future success of our undertaking."

ON TUESDAY (being contango-day) the business done was, as usual, limited. Benhar, all paid, 10. 5½ to 10½; new (5d. paid) shares, 5 to 5½. Cape Copper lower, at 33½ to 34½. Canadian Copper Pyrites done at 39s., 4½, and 40s. 6d., closing 41s. to 43s. Bolckow Vaughan, A, 50 to 50½. Emma done at 35s. and 35s. 6d., closing 35s. to 36s. Flagstaff, 1 to 1½. Huntington done at 40s. 6d., closing 40s. to 41s. Marke Valley, 1½ to 1½. Marbella, 8s. 6d. to 8s. 6d. Monkland ordinary, 6s. to 6s. Princes of Wales, 2s. to 2s. Rio Tinto done at 7. 13-18th. Richmond done at 12. 7-18th, closing 12½ to 12½; this week's run is announced by telegraph from mine at £46,000, which, it will be noticed, is £100 better than the previous week, and, therefore, considered satisfactory. Scottish Australian, 1½ to 1¾. South Roskear offered at 6, but no bid made. Tharsis done at 23 and 23½, closing 23½ to 23½; new shares done from 7 per cent. guaranteed preference, lower, at 6 to 6½. Princes of Wales, 2s. to 2s. 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OFFICE OF MR. PILASTRE, AVOUE, PARIS, 46, RUE NOTRE-DAME-DES-VICTOIRES.

SALE at the Auction Room, at the Palais de Justice, Paris, on the 26th of August, 1875, at Two o'clock in the afternoon, of the **LEAD, COPPER, SILVER, ZINC, AND OTHER MINES**, **As well as of the WORKS and REAL PROPERTY, appertaining to the failure of the "UNION METALLURGIQUE," in Twelve Lots, viz.:**

	Upset prices.
Le Poncey (Ariège)	Fr. 200,000
Aulus (ditto)	50,000
Seix (ditto)	40,000
Alloue (Charente)	60,000
Chambonnières Versilliac (Hte. Loire)	30,000
Saint-Même (Morbihan)	4,000
Talencieux et Ardoin (Ardèche)	25,000
Works du Roche (ditto)	15,000
Works de Sarras (ditto)	10,000
La Laye (Alsace)	10,000
Pot of Ground at Agde (Hérault)	4,000
Right of Building at Agde (ditto)	200
Total of the upset prices	Fr. 484,000

The PLANT is comprised in the sale.
Apply to Mr. PILASTRE, Solicitor for the Creditors; and to Mr. BEAUGÉ, Syndic, Avenue Victoria, Paris.

TO BE SOLD, BY AUCTION, by MR. JOHN CHURTON (of the firm of Churton, Elphick, and Co.), the person appointed by the Vice-Chancellor Sir RICHARD MALINS, to whose Court the winding-up of the Matter in the Matter of the Companies Acts 1862 and 1867, is attached at the Queen's Hotel, in the City of Chester, on Saturday, the 7th day of August, 1875, at Two o'clock in the afternoon, in One Lot. Certain FREEHOLD HEREDITAMENTS, with the MINES and MINERALS therein situated at Holywell, in the county of Flint, containing 4 A. 2 R. and 17 P., or thereabouts.

Also the FREEHOLD MINES and MINERALS lying under two small pieces of land adjoining the before-mentioned hereditaments, and containing respectively 2 R. 19 P. and 1 R. 17 P., or thereabouts.

Also the LESSEES' INTEREST in the MINES and MINERALS lying under 48 A. 2 R. 29 P. of land, or thereabouts, situated at Holywell aforesaid, and also the plant, fixed and moveable machinery, stock in trade, and other articles now in or upon the said premises.

The several properties may be viewed on application to, and particulars and conditions of sale when ready, may be had gratis of Mr. JOHN STANLEY BLAKE, of Commero Chambers, Lord-street, Liverpool, account of the Official Liquidator of the Company; Messrs. GREGORY, ROWCLIFFES, and RAWLE, 1, Bedford row, London, solicitors; Messrs. DUNCAN, HILL, and DICKINSON, 10, Water street, Liverpool, solicitors; Messrs. CHURTON, ELPHICK, and Co., Foregate-street, Chester, auctioneers, and at the said hotel.

E. W. WALKER, Chief Clerk.
GREGORY, ROWCLIFFES, AND RAWLE, 1, Bedford row, London.
(Agents for Duncan, Hill, and Dickinson, Liverpool,
Solicitors for the Official Liquidator)

Dated this 10th day of July, 1875.

MONDAY, AUGUST 9TH, 1875.

TO BE SOLD, BY AUCTION, on Monday, the 9th day of August next, at Two o'clock in the afternoon, at Wheal Bonny Tin Mine and Shelton Clay Works, in the parish of St. Austell, in the county of Cornwall, the

MACHINERY AND PLANT THEREON, comprising—
ONE 33 in. cylinder PUMPING ENGINE, with 10 ton BOILER : 25 tons of 10 in. plow, capstan, shears, horse whim, tram wagons, chain, smiths' bellows, anvil, vice, beam scales, and weights, carpenters' bench, grinding stone, 8 racks, 2 round bobbins, water wheel, hand bobbins, tin hatchet and keives, drugs, rail iron, 6 tram wagons, turn pulley and frame, sundry timber, &c., &c.

At the same time and place will be offered the Lease under which the Shelton Clay Works is held.

For particulars, apply to Mr. F. WARWICK, 25, Bucklersbury, London; or to Messrs. HANCOCK and SONS, Auctioneers, St. Austell.

Dated July 29, 1875.

In Chancery.

IN THE MATTER OF THE ENGLEFIELD COLLIERY COMPANY (LIMITED), AND IN THE MATTER OF THE COMPANIES ACTS, 1862 AND 1867.

TO BE SOLD, BY PRIVATE CONTRACT, subject to the approbation of the Judge, a valuable LEASEHOLD COLLIERY PROPERTY, known as "THE ENGLEFIELD COLLIERY," situate near to HOLYWELL, in the parishes of Holywell and Whitford, in the county of FLINT, half a mile from the Holywell Station, on the Chester and Holyhead Railway Company, comprising an area of about 5000 acres, the seams of coal having a thickness of about 66 feet, with the PLANT and MACHINERY, and the LEASE of FIFTEEN COTTAGES at Greenfield.

Printed particulars and conditions of sale, and plans of the property, may be had gratis of the Official Liquidator, Mr. JAMES THOMAS SNELL, Public Accountant, 85 and 86, Cheapside, London; and of Messrs. NASH, FIELD, and MATHEWS, Solicitors, 12, Queen-street, Cheapside, London.

NASH, FIELD, AND MATHEWS, 12, Queen-street, E.C.

Dated 23rd day of July, 1875.

IN VOLUNTARY LIQUIDATION UNDER THE COMPANIES ACT, 1862.

THE NEW LLANGYNOG LEAD MINING COMPANY (LIMITED).

TO BE SOLD, BY PRIVATE TREATY, ALL the BENEFICIAL INTEREST of the New Llangynog Lead Mining Company (Limited) in the LLANGYNOG LEAD MINES, comprising all the valuable, productive, and extensive mines, veins, beds of lead, ores of lead, and other metals and minerals known collectively as the Llangynog Lead Mines, and in the reservoirs, water-supply rights, easements, and interests thereto belonging, situate in the several parishes of Llangynog, Llanrhafal-dy-Mochnant, Hirnant, and Pennant, in the county of Montgomery; and also the WHOLE of the movable PLANT and MACHINERY of the said company.

The Llangynog Lead Mines have been a highly productive and dividend-paying property.

The mines, machinery, and plant are in working order, and considerable quantities of ore are now being raised.

The works may be inspected at any time upon application to the Manager at the Mine. The leases and agreements may be inspected at the offices of Messrs. LOWELL, JONES, and WILLIAMS.

All further information may be obtained, and maps of the property inspected, on application to Messrs. GEO. HASWELL and SONS, 84, Foregate-street, Chester; to HENRY DENNIS, Esq., Mining Engineer, Hafod-y-Bwch, Ruabon; or to Messrs. LONGVILLE, JONES, and WILLIAMS, Solicitors, Oswestry.

HENDON SPELTER WORKS COMPANY.

TO CAPITALISTS, PROMOTERS OF PUBLIC COMPANIES, & OTHERS. **FOR SALE**, in consequence of the Death of the late Senior Partner, the SPELTER WORKS, situate at Hendon, in the borough of Sunderland, in the county of Durham, now being carried on under the style of "THE HENDON SPELTER COMPANY."

The works are situated within one mile of the well-known docks of the port of Sunderland, and adjoining the Hartlepool Branch of the North Eastern Railway, with which they are connected by high and low level sidings, and thereby placed in communication with all parts of the United Kingdom. Their position, within easy distance of both the ports of Newcastle and Sunderland, is very advantageous for the cheap importation of raw material, as also the forwarding of the manufactured article either by land or sea.

The ground on which the works are built could be either bought out or sold on a yearly perpetual ground rent, and any quantity under 20 acres could be included in the sale.

Being situated in the midst of the Durham Coal Field fuel of the best description can be obtained at a cost below almost any other part of the United Kingdom. There are 19 workmen's cottages, which could be sold with the works.

The works contain 24 zinc furnaces, capable of producing 70 tons of metal a week, as also calcarines, potlaths, machinery, blacksmiths' and joiners' shops, &c., of sufficient capacity for a much larger number. The works could, therefore, be doubled at a comparatively small cost.

The quality of the metal made at these works is well known, and it, therefore, commands a ready sale at the highest price.

Attached to the high level sidings are large depots for coal, ore, &c.

The goodwill will, of course, go with the works, and they will be sold subject to all stock being taken at a fair market value.

The purchaser can also have the option of buying the CALCINING WORKS and VALUABLE MINES in SPAIN, thus allowing of the economical and regular supply of the raw material, and saving the mineowners' and merchants' profits.

At the ore from the South of Spain generally comes as ballast for ships laden with esparto, it has been brought for this company at an average cost of 7s. per ton, sometimes as low as 4s. 6d.

Further particulars can be had on application to the company.

TO BE SOLD, A valuable FREEHOLD MINING PROPERTY in CARMARTHENSHIRE. The estate contains SEVERAL FARMS, consisting in all about FOUR HUNDRED ACRES, the whole under-tenanted with veins of the best anthracite coal, iron ore, fire-clay, &c., all of which have been proved, and are now being worked on adjoining properties. A portion only of the freehold surface will be sold.

For particulars, apply to Mr. W. W. GWYNNER, Surveyor, 12, Beaufort Buildings, Strand, W.C.

TO CAPITALISTS OR PROMOTERS DESIRING TO MAKE MONEY.

TO BE SOLD, COLLIERY ROYALTY in NORTH WALES, close to rail or shipping port; several shafts partially sunk; coal fully proved 400 acres of surface. It adjoins the West Mostyn Coal Field, just successfully launched, whereunder seams (including Cannel) have been proved in addition to the above; so that eminent engineers state that the available coal in this royalty may be 80 feet thick.

Present holder will arrange to sell the entire to an individual or company for the coal trade, must be large. Certain and safe surveys by eminent Staffordshire and Welsh engineers have already been made.

Address, "Nil Desperandum," care of Mr. Watson, 15, Fenwick-street, Liverpool.

In the Court of the Vice-Warden of the Stannaries. Stannaries of Cornwall.

IN the MATTER of the COMPANIES ACTS, 1862 and 1867, and of the ST. JUST AMALGAMATED MINING COMPANY (LIMITED).—TO BE SOLD, under the direction of the Registrar of the said Court, on Monday, the 2nd day of August next, at Twelve o'clock noon, at the ST. JUST AMALGAMATED MINES, in the parish of St. Just-in-Penwith, within the said Stannaries, subject to such conditions as shall be then and there produced, all the interest of the said company of and in the several SETTS under which its mining operations have been carried on, together with the undermentioned mining

PLANT, MACHINERY, MATERIALS, AND EFFECTS,

including from 8 to 10 tons of TIN ORES on the floors belonging to the said company, and being within and upon the said mine:—

36-in. cylinder ROTARY ENGINE, 9-ft. stroke, with fly-wheel and three 10-ton

BOILERS:

40-in. cylinder PUMPING-ENGINE, with one 10-ton BOILER;

40-in. cylinder STEAM-WHIM, 6 ft. stroke, with fly-wheel, and cage, and 7-ton

BOILER:

24-in. STEAM-WHIM, with fly-wheel, and cage, and 10-ton BOILER;

Balance-bobs, two 16-head iron axles, with drivers, &c., complete; two other 16-head iron axles, with drivers, &c.; several fathoms of railroad with stands; three 4-in. pumps, matching and pipes; crab winch, 300 fms. 2½ wire-rope, wood passes, and railroad behind stamps.

DRESSING FLOORS.—Four Borlaes' bobbles, with water-wheel and driving gear complete; four ditto, ditto, without stands, with water-wheel and driving gear complete; wood dressing-house, kieves and tubs, iron pipes and woodwork conveying stuff from top floors.

LEAVING FLOORS.—Wood house, hand framed and pits, Borlaes' bobbles and small water-wheel, wood roof over frames, trunks and water-wheel, carpenter's flat, flat-thread screw, new launders.

SAMPLING HOUSE.—Railroad and stands, tram wagons, shaft tackle, shieves and landing brace, winch and stand, chain, pulley-stands, Bartlett's weighbridge, dry dry tube, miners' skips, horse-whims, kibbles, dial.

SMITHS' SHOP.—Two bellows, anvils, cast-steel, old steel, miners' tools, new bar

and forged iron, smiths' tools, old iron, brass, Pit-Work, UNDERGROUND.—Savels' Shaft: House lift, 30 fms. 9 in. plunger lifts, 40 fms. 6-in. ditto, 27 fms. 5½ in. ditto, 3 fms. 3½ in. ditto, drawing-lift with bucket-rods, 43 fms. 10-in. plunger, balance-lift, 155 fms. 7-in. rods, rod-plates, 162 fms. double, cable-lift, 375 fms. iron stave ladders, balance-rods; staples, glands, bolts, &c.; 420 fms. bridge rails.—North Shaft: 104 fathoms single skip-road, 100 fms. 1½ round iron rods, bucket-rods, 290 fms. railroad.—Pryor's Shaft: 25 fathoms rails and tram wagons.—East Buck Shaft: 105 fms. iron rails and tram wagons.—West Buck Shaft: 96 fms. iron rails, 95 fms. ladders, tram wagon.—Roddipper Shaft: 70 fms. single skip road, 70 fms. iron stave ladders, 155 fms. iron rails.—Wheat Widden: 30 fms. 6-in. plunger-lift, 30 fms. 4-in. wood-rods and plates.

Boscombe Engine Shaft: 24 fms. 6 in. plunger lift, 30 fms. 5 in. ditto, 20 fms. 4½ in. ditto, 12 fms. 4 in. drawing-lift with bucket-rods, 75 fms. 6 in. wood rods, rod-plates, 85 fms. horse whims, double skip road, and the Account-House Furniture, together with numerous other effects in general use in mines.

For leave to inspect the above apply to the agent in charge of the mine; or to Mr. F. WARWICK, the official liquidator of this company, at No. 23, Bucklersbury, London.

HODGE, HOCKIN, AND MARRACK, Solicitors, Truro,
ALEXANDER KERLY, 4, Great Winchester-street, London.
(Solicitor for the said Official Liquidator.)

Dated Stannaries Court Office, Truro, this 19th day of July, 1875.

VALUABLE MINING PROPERTY.

THE WELL-KNOWN CONISTON AND TILBERTHWAITE COPPER MINES IN NORTH LANCASHIRE.

T. M. FISHER, SONS, AND CO. are instructed TO SELL, as a ONE GOING CONCERN, at the Clarence Hotel, Spring Gardens, Manchester, on Tuesday, the 3rd August, 1875, at Four for Five o'clock in the afternoon, in One or more Lots, as may be decided upon, subject to conditions of sale to be then proposed, all those valuable and extensive MINING PROPERTIES, known as the CONISTON AND TILBERTHWAITE COPPER MINES.

The FREEHOLD BUILDINGS at CONISTON comprise FORTY-ONE NEW HOUSES (with outbuildings and gardens), in four blocks, pleasantly situated in the village, and near the railway station.

The LEASEHOLD BUILDINGS, which are at the Mines, include THIRTEEN COTTAGES, complete Suite of Offices, Board and Managers' Rooms, Pay Offices, Changing Rooms, Cooking Kitchens, Powder Magazine, Storehouses for Material and Dressed Copper, large Smiths' Shop, fitted with seven hearths, Carpenters' Shop and Saw Mill, Stables, Mill-houses, and large sheds for stamps and jigger machines, and several ranges of shedding for sorters and dressers.

The Copper Station is situated about three-quarters of a mile from the principal dressing-floors, and at the terminus of the Coniston branch of the Furness Railway, with shoots for unloading the ore, large sampling floors, and platform over siding for loading several trucks, office, &c.

The PLANT includes THIRTEEN large overshot WATER WHEELS, varying from 12 to 45 ft. diameter, THREE small WATER WHEELS, Crushing Mills, Screens and Elevators, Jigging Machines, Stamping Mills, Tramways and Hoists, Iron Wagons, Carts, &c.

The Coniston mining sett is about three miles square, the lodes are numerous and well defined, and as the present workings have been confined to three or four lodes, a large part of the sett is undeveloped. The mines are now in partial work only, and the present returns average about 100 tons of ore per month.

The water power is almost unlimited, as a level has been driven into a mountain tunnel of about 45 acres area, called Lever's Water, from which, in addition to the mountain streams, a large supply of water is drawn. No steam power is required, and the only coils used are at the smiths' shops.

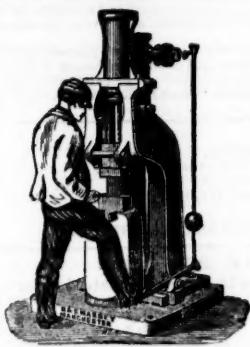
The present lease of the Coniston sett expires in 1880. The royalty is 1-18th, without any surface rent, and a renewal of the lease on the same terms can be obtained.

Tilberthwaite Mines comprise a large area, adjoining Coniston. The deep level is driven 1080 yards, and unwaters a large district; the lodes are only partially opened on. There is a large vein of slate rock of good quality near the level mouth, for which offers to work have recently been made, and the supply of water is most ample. These mines are held on lease, of which ten years are unexpired, at a minimum rent of £200, merging in a royalty of 1-18th.</p

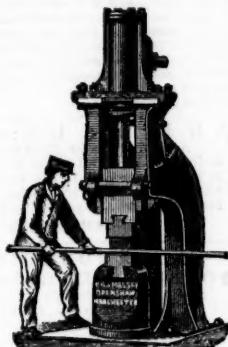
B. & S. MASSEY, OPENSHAW, MANCHESTER.

PRIZE MEDALS AWARDED:—Paris, 1867 Havre, 1868 Highland Society, 1870; Liverpool, 1871; Moscow, 1872; Vienna, 1873.

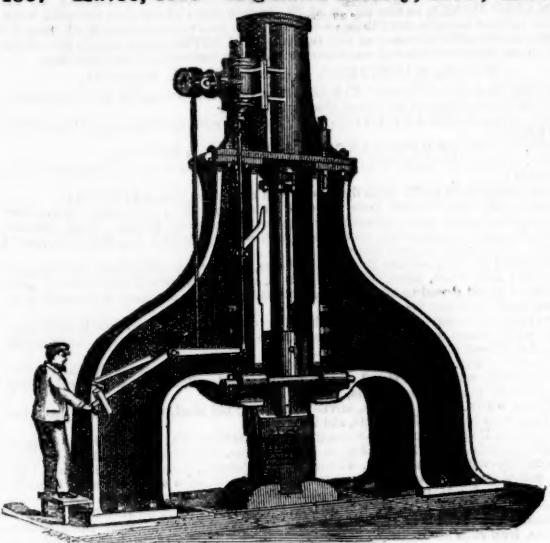
Patentees and Makers of Double and Single-acting STEAM HAMMERS of all sizes, from $\frac{1}{2}$ cwt. to 20 tons, with self-acting or hand motions, in either case giving a perfectly DEAD BLOW, while the former may be worked by hand when desired. Large Hammers, with Improved Framing, in Cast or Wrought Iron. Small Hammers, working up to 500 blows per minute, in some cases being worked by the Foot of the Smith, and not requiring any separate Driver.



Small Hammer with Foot Motion.



General Smithy Hammer.

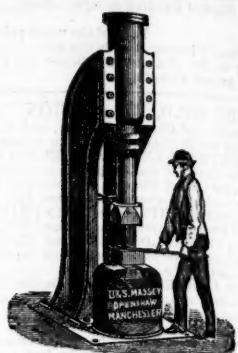


Steam Hammer for Heavy Forging.

SPECIAL STEAM STAMPS, of great importance for Forging, Stamping, Punching, Bolt-making, Bending, &c.
STEAM HAMMERS for Engineers, Machinists, Ship-builders, Steel Tilters, Millwrights, Coppersmiths, Railway Carriage and Wagon Builders, Colliery Proprietors, Ship Smiths, Bolt Makers, Cutlers, File Makers, Spindle and Flyer Makers, Spade Makers, Locomotives and other Wheel Makers, &c.; also for Use in Repairing Smithies of Mills and Works of all kinds; for straightening Bars, bending Cranks, breaking Pig-iron, &c.



Special Steam Stamp.



General Smithy Hammer.

From 60 to 100 Steam Hammers and Steam Stamps may usually be seen in construction at the Works.

COAL-CUTTING MACHINERY.

W. and S. FIRTH undertake to CUT, economically, the hardest CHANNEL, ANTHRACITE, SHALE, or ORDINARY COAL, ANY DEPTH, UP TO FIVE FEET.

Apply,— 16, YORK PLACE, LEEDS.

FRANCIS MORTON & CO., LIMITED, LIVERPOOL,
Manufacture, in Galvanised and Corrugated Iron,
IRON ROOFS, IRON BUILDINGS, IRON SHEDS,

Which they have extensively supplied and erected for mining requirements at home and abroad.
ESTIMATES FURNISHED ON RECEIPT OF PARTICULARS.

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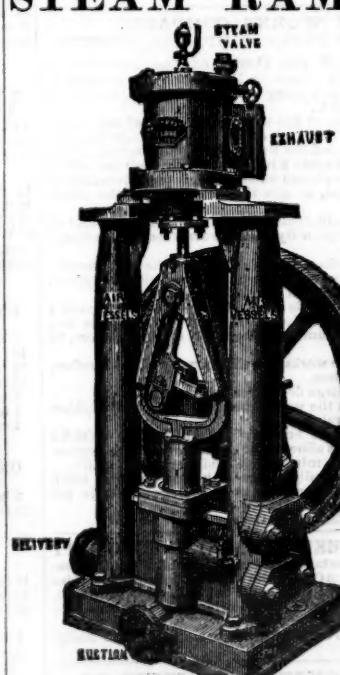
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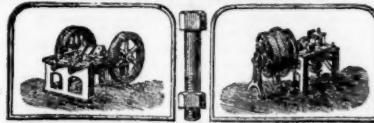
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JULY 31, 1875.

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Shares	Mines.	Paid.	Last Pr.	Clos. Pr.	Total divs.	Per share.	Last paid
15,000 Alderley Edge, c, Cheshire*	10 0 0	—	1	—	12 6	8.0	Jan. 1875
30,000 Bampfylde, c, i, mn., Devon*	1 0 0	—	0 2 0	0 2 0	0	0 0	June 1873
8,000 Bleen Caeian, s-l, Cardigan* (24 sh.)	3 10 0	—	0 10 9	—	—	—	—
200 Totalack, t, c, St. Just*	116 5 0	45	40 45	619 15 0	5	0 Aug.	1872
1,000 Froncwyd, * s-l, Cardigan	1 7 6	—	2 0	0 0	0 0	0 0	Jan. 1872
4,000 Brookwood, c, Buckfastleigh	1 16 0	4%	4 4%	3 10 6	0 4	0 July	1875
3,240 Cargill, s-l, Newlyn*	5 10 0	—	1 3 4	4 16 8	0 12 6	0 Oct.	1872
6,000 Cawell, t, Cumberland	2 10 0	—	1 6 0	0 2 0	0 0	0 Aug.	1873
1,000 Carn Eira, c, t, Illogan*	86 0 0	35	31 23	308 0 0	1 0 0	0 Feb.	1874
6,000 Cath, & Jane, t, Penrhyneddraeth	5 0 0	—	0 7 0	0 7 0	0 0	0 June	1873
2,450 Cock's Kitchen, t, Illogan*	20 19 9	4%	4 4%	11 17 0	0 7 6	0 Jan.	1873
10,240 Levon Gt. Consols, c, Tavistock*†	1 0 0	3	2 3 3	116 10 0	0 12 0	0 May	1872
4,250 Dolcoath, c, t, Camborne	10 14 10	40	38 40	106 16 8	0 10 0	0 June	1875
6,000 Drake Wallis, t, c, Calstock	6 0 0	—	0 2 0	0 0 0	0 0	0 July	1874
10,000 East Llanwledyden, t, Sancreed*	1 0 0	—	0 2 11	0 0 0	0 0	0 Feb.	1874
6,144 East Cardon, c, St. Cleer*	2 14 6	1	—	14 19 0	0 0 0	0 Oct.	1872
300 East Darren, t, Cardiganshire	32 0 0	—	22 10 0	1 0 0	0 July	1875	
8,400 East Pool, t, c, Illogan	0 9 9	14	13 18%	13 13 9	0 2 6	0 July	1875
1,900 East Wheal Lovell, t, Wendron*	5 19 0	8	7 8	20 7 6	0 7 6	0 Oct.	1874
2,840 Foxdale, t, Isle of Man*	25 0 0	—	80 15 0	0 10 0	0 Sept.	1872	
40,000 Glasgow Cara, c* (30,000 £1 p., 10,000 15s. p.)	135 13 6	8 7 4	0 1 6	Jan. 1875	—	—	—
15,000 Great Luxey, t, Isle of Man*	4 0 0	145 14 6	15 6	18 3 0	0 8 0	0 July	1875
25,000 Great West Van, t, Cardigan*	2 0 0	—	0 2 0	0 1 0	0 Aug.	1874	
6,000 Great Wheal Vor, t, c, Helston*	40 15 0	34	34 34	15 19 0	0 2 6	0 June	1872
6,400 Green Hurst, t, Durham*	0 6 0	5	—	1 12 0	0 0 0	0 Oct.	1874
20,000 Grogwinion, t, Cardigan*	2 0 0	3	24 24	0 2 0	0 1 4	0 Dec.	1874
9,830 Gunnislake (Clitters), t, c	5 5 0	13%	1 13%	0 7 3 0	0 6 0	0 June	1875
1,024 Herodsfoot, t, near Liskeard*	8 10 0	3%	3 3%	62 5 0	0 15 0	0 Oct.	1872
18,000 Hindton Down, c, Calstock*† (2 sh.)	2 5 0	1%	14 1%	4 3 0	0 5 0	0 Dec.	1872
25,000 Killaloe, t, Tipperary	1 0 0	—	0 3 1 12	0 6 0	0 Mar.	1873	
400 Lisburne, t, Cardiganshire	18 18 0	—	567 10 0	0 0 0	0 July	1875	
6,120 Lovell, t, W. Endron	0 10 0	—	0 17 6	0 1 6	0 Jan.	1874	
11,000 Melindur Valley, t, Cardigan*	3 0 0	3	2 12 3	0 7 2 0	0 3 7 0	Jan. 1875	
5,000 Minera Mining Co., t, Wrexham*	6 0 0	7%	5 7%	68 19 0	0 2 0	0 May	1875
25,000 Mining Co. of Ireland, c, c, l*	7 0 0	—	0 8 0	0 3 6	0 July	1872	
12,000 North Hendre, t, Wales	2 10 0	—	1 0 0	0 2 0	0 April	1875	
2,000 North Levant, t, c, St. Just*	42 2 0	3%	34 3	4 18 0	0 12 0	0 Sept.	1873
9,258 Old Treburredge, t, ordinary shares	1 0 0	—	0 0 9 0	0 0 0	0 Feb.	1874	
6,000 Old Treburredge, t, 10 per cent. pref.	0 10 0	—	0 1 4 0	0 0 0	0 July	1874	
5,694 Ped-an-drea, t, Redruth*	9 17 0	6%	5 5 5	0 5 0	0 5 0	0 Nov.	1871
5,000 Penhalls, t, St. Agnes	3 0 0	2	1 12	3 13 0	0 2 0	0 July	1875
4,793 Penstrithall, t, c, Gwenwynap	2 0 0	—	0 2 0	0 1 0	0 Nov.	1874	
6,000 Phoenix, t, c, Linkinhorne*	4 13 4	3%	3 3 3	39 19 0	0 4 0	0 Nov.	1872
1,772 Polberro, t, St. Agnes	15 0 0	—	1 12 6	0 5 0	0 Mar.	1872	
18,000 Prince Patrick, t, Holywell	1 0 0	—	0 11 6	0 2 6	0 July	1875	
1,120 Providence, t, Lelant*	16 16 7	3	2 3	104 12 0	0 10 0	0 Sept.	1872
2,000 Queenes, t, Holywell*	2 0 0	—	0 2 0	0 2 0	0 Sept.	1874	
12,000 Roman Gravel, t, Balop*	7 10 0	12%	11 12	4 19 0	0 8 0	0 May	1875
10,000 Shelton, t, St. Austell	1 0 0	—	0 1 0	0 1 0	0 Feb.	1872	
512 South Cadon, c, St. Cleer	1 5 0	110	105 110	720 0 0	0 5 0	0 June	1875
6,000 South Carn Brea, t, Illogan*	2 6 6	13%	13 13%	0 10 0	0 2 6	0 July	1872
6,123 South Conduffor, t, Camborne*	5 5 6	5	4 4%	1 7 6	0 5 0	0 July	1875
6,000 South Darren, t, Cardigan*	3 6 6	—	1 1 6	0 1 6	0 Nov.	1870	
8000 So. Pr. Patrick, t, Holywell*	1 0 0	—	0 6 0	0 2 0	0 April	1875	
8771 St. Just Amalgamated, t*	8 10 0	—	0 9 0	0 4 0	0 Nov.	1871	
12,000 Tankerville, t, Salop*	6 0 0	11	11 11%	3 13 0	0 5 0	0 May	1875
6,000 Tincroft, c, Pool, Illogan	9 0 0	19	18 19	48 3 0	0 5 0	0 May	1875
15,000 Tretell, t, Bodmin	2 0 0	—	0 1 0	0 1 0	0 Mar.	1874	
4,000 Trumpet Consols, t, Helston	7 10 0	—	9 11 0	0 10 0	0 Nov.	1872	
15,000 Van, t, Llandilo	4 5 0	16	24 26	15 4 6	0 13 0	0 July	1875
3,900 W. Chilverton, t, Perranzabuloe*	12 10 0	17%	15 16	62 10 0	0 5 0	0 June	1874
512 West Tolgs, t, Redruth	95 10 0	45	40 42%	7 5 0	0 1 5	0 June	1875
2045 Wheat Basset, t, Illogan	5 2 6	5%	4 5	688 10 0	0 10 0	0 Aug.	1875
2048 Wheat Jane, t, Kew	2 13 10	3%	3 3 3	11 5 0	0 5 0	0 July	1875
4295 Wheat Kitty, t, St. Agnes	5 4 6	3	3 3 3	11 19 0	0 2 6	0 Dec.	1874
896 Wheat Margaret, t, Uny Lelant*	15 17 6	—	82 2 3	0 10 0	0 May	1872	
80 Wheat Owles, t, St. Just*	86 5 0	120	100 120	522 10 0	0 4 0	0 Aug.	1872
12,000 Wheat Russell, t, Tavistock	1 0 0	—	0 1 0	0 1 0	0 Dec.	1874	
10,000 Wheat Whisper, t, c, Warleggan*	1 0 0	—	0 1 6	0 0 0	0 May	1872	
25,000 Wicklow, c, sul, t, Wicklow	2 10 0	—	82 9 0	0 0 0	0 2 6	0 Mar.	1875
10,000 Wye Valley, t, Montgomery*	3 0 0	3%	24 3	0 3 0	0 3 0	0 Mar.	1873

FOREIGN DIVIDEND MINES.

Shares	Mines.	Paid.	Last Pr.	Clos. Pr.	Last Cull.
25,500 Alamillo, t, Spain*	2 0 0	—	1 34 24	1 7 9	0 2 0 Mar.
30,000 Almude and Thito Cons., t*	1 0 0	—	1 24	0 5 8	0 1 0 Mar.
20,000 Australian, c, south Australia	7 7 6	2 34 13%	0 15 6	0 2 0 July	1875
10,000 Battle Mountain, * c, (6240 part pd.)	5 0 0	—	0 10 0	0 10 0	0 Nov.
15,000 Blidseye Creek, g, California*	4 0 0	2	1 13 13%	0 14 0	0 8 0 July
6,000 Bensberg, t, Germany	10 0 0	—	0 17 4	0 8 0 July	1875
12,250 Burra Burra, t, c, So. Australia	5 0 0	—	56 0	0 10 0	0 Oct.
20,000 Cape Copper Mine, * c, So. Africa	1 0 0	35 12 33%	20 15 0	1 0 0 June	1875
40,000 Cedar Creek, g, California	5 0 0	—	7 5 7%	0 5 0	0 July
80,000 Central American Association*	16 16 8	—	0 6 0	0 1 0	0 May
18,000 Chicago, s, Utah*	10 0 0	—	1 12 0	0 4 0	0 May
21,000 Colorado Terri, t, Colorado*	8 0 0	3%	2 24 34	0 18 8	0 4 0 Jan.
100,000 Den Pedro North del Rey*	0 16 0	—	2 5 2	0 2 0 Mar.	1872
25,000 Eldorado, t, Nevada*	10 0 0	9			